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To Mrs J. Stewart with the
est of good wishes of the
author
James J. Harpell
April 28th 1955

The GARDEN CITY PRESS

ITS PURPOSE, PERSONNEL AND LOCATION

BY

J. J. HARPELL

GARDEN CITY PRESS
GARDENVALE QUE. & TORONTO ONT.

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PREFACE

PRINTING

THE GARDEN CITY PRESS is the name of the workshops of the Industrial & Educational Publishing Company, Ltd., where a great variety of high class printing is done — journals, magazines, books, pamphlets, catalogues, house organs, directories and office supplies.

JOURNALS

It is the home of Canada's leading technical and trade periodicals that serve her basic and essential industries.

The Journal of Commerce	Weekly
The Pulp & Paper Magazine of Canada	Weekly
The Canadian Textile Journal	Weekly
The Canadian Mining Journal	Weekly
The Farmers' Guide	Bi-Weekly
The Canadian Fisherman	Monthly
Iron & Steel of Canada	Monthly
The Canadian Directory of Industry Commerce and Finance	Annual

BOOKS

It is the emporium of technical and educational books of every description, also of dictionaries and encyclopædias. Any technical book that has ever been published and is still in print may be had through the Garden City Press.

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EDUCATION

It is the centre from which radiate the educational activities of many important organizations such as the Canadian Pulp & Paper Association, the Canadian Textile Institute, the Canadian Fisheries Association, and so forth.

Much of this Educational work is being done under the title of the Institute of Industrial & Domestic Arts, the main purpose of which is to encourage "study in work" and provide correspondence courses best calculated to give the worker the education and training necessary to a useful and successful career.

Some of these courses of study are provided by the organized industries as in the case of the courses in the manufacture of pulp and paper. Some are provided by the Institute itself and some by other organizations with which the Institute is affiliated such as:—

The Industrial Correspondence University, Philadelphia.
The Bennett Accountancy Institute, Philadelphia.
Hays School of Combustion, Chicago.
Hugo's Language Institute, London, Paris.

In short, the work at the Garden City Press is intended to encourage and assist in the development of the intellectual resources of the country along lines contributing to the fullest development of the country's material resources both of which are essential to the comfort and general well-being of the people.

The Institute of Industrial and Domestic Arts

In every community there are many people who have either never had or who have missed the opportunity of getting an education. Many of these are too busy to think out for themselves ways and means of regaining the advantages they have lost; while others, who have the time, lack the information as to how and where to begin, and where to look for courses of study and books best suited to their requirements.

The Institute of Industrial and Domestic Arts is intended to supply this assistance. It will also direct enquirers to the best literature there is to be had on any subject. In short the Institute is designed to encourage study, and to supply information that will assist the worker, irrespective of the class of work in which he or she is engaged and irrespective of the amount of education he or she may have.

It is estimated that ninety per cent. of the people never receive more than a common or high school education. The other ten per cent are well provided with colleges, universities, schools of applied science and other educational institutions. The Institute of Industrial & Domestic Arts is primarily a central educational institution for those who have not yet entered the ten per cent. class.

It is more than this. It is an institution calculated to give to even the highly educated a practical knowledge of the industrial and domestic arts. It is one thing to have an education, but another to know how to make the most practical use of it. The best evidence that the I. I. D. A. can do this lies in the fact that over ten per cent. of those taking its courses of study are university graduates.

In the selection of men and women to conduct these courses of study no effort has been spared to secure the best instructors, who by personal experience, training, and initiative are capable of developing and maintaining the inspiration and application of the student.

Situated as it is at The Garden City Press, the I. I. D. A. is geographically most centrally located and at the same time is always in close contact with all the important and basic industries through the technical and trade papers published there, as well as through the many industrial and technical organizations that have many of their important educational activities centered there.

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THE GARDEN CITY PRESS, GARDENVALE, QUE.

CHAPTER I

THE VALUE OF STUDY IN WORK—HOW AND WHERE TO BEGIN

Three Magic Words

Most people are anxious to make a success of life. But how few ever stop to consider what they should do to succeed! If they did, they would find the secret standing out in bold relief. It is best expressed in three simple words, "STUDY YOUR JOB."

There is no job, no matter how menial, that cannot be made a stepping stone to a higher and better paid position, providing that job is carefully studied and an effort made to do it better than it can be done by any other person. By always trying to do the work at hand better, one is unconsciously preparing himself for the position next higher up. If a greater knowledge of arithmetic will enable him to understand better the work he is doing (and it will), he should delve into it. He should begin where he left off at school, or just below that point so that for the first week or so he will be reviewing work he already knows something about. More successful men and women owe their start on the upward road to arithmetic and applied mathematics than to any other single factor.

The study of mathematics by itself is dry and uninteresting. It is drudgery. But the study of it as applied to the work one is doing is a revelation and intensely interesting. Webster's dictionary says that "Work is a physical or intellectual effort directed to some end." Either physical or intellectual effort taken alone is drudgery. Properly combined they give pleasure and develop the enthusiasm, initiative and application necessary to success. Either, by itself, produces a mere operator; combined, they produce the mechanic. The work of a mere operator—the man who works with his hands and not with his brains, —is deadly monotonous and offers little or no chance for advancement. It is "cheap help." The man who is sought after is the mechanic — the man who "studies while he works." He is the man who is wanted everywhere and for all kinds of work.

Some years ago it was thought that, with the advent of automatic machinery, the demand for the mechanic would lessen. But, on the contrary, it has increased. It is now generally recognized that the production from even the most automatic machinery in both quantity and quality is directly proportional to the brain power of the man or woman who has charge of it. By brain power we do not mean a large amount of academic lore but a knowledge of the fundamental subjects of mathematics, mechanics, physics, chemistry and electricity and their application to the job or work one is doing.

At an early age a boy began to work in the coal mines of Nova Scotia. He remained there in the ranks of unskilled labor for a number of years until by some impulse or persuasion he decided to take a correspondence course of instruction in underground surveying. He had little or no education and had to spend a considerable time in studying elementary arithmetic and other subjects before he could take his engineering course. But he finally got it and afterwards continued to study other subjects pertaining to coal mining. Shortly after he commenced his studies he began to rise. He went up from one position to another until he finally occupied one of the highest and best paid positions in the coal mining industry.

A machinist, who had worked several years at his trade, had no idea of becoming anything more than what he was. One day he was persuaded to buy a correspondence course of instruction in machine shop practice. He began to study and at once the character of his work began to improve and with it his opportunities. He is now the president and the managing director of a large Canadian industry.

Why is it that so many of the sons and daughters of poor parents have become the most successful men and women? Because, they have had the time and energy to "study their jobs." The opportunity for idle entertainment and the spending of money which wealth affords is the handicap of the rich boy or girl, while the lack of this opportunity is the advantage of the poor, providing some time is spent in study.

Why is it that the greater number of successful men and women come from the farm? Because they have been trained to work and their habits of living foster a deeper interest in what they undertake to do. They are invariably early risers—a habit possessed by every successful man and woman. On the farm the boy is early taught to do things for himself. This develops initiative and resourcefulness which is the natural awakening of the instinct to "study his job." The city boy, whether rich or poor, generally has everything done for him. He does not have to carry water or make a well pole to get it with. He does not have to carry in wood or study ways and means of avoiding it. Nor does he have the opportunity of watching, and possibly helping, his mother bake bread, or of seeing how his father mends the horse-rake or builds a manger for the calves in such a way that they can easily get at their feed without trampling it under foot.

Occasionally the city boy has these opportunities and less frequently has the good sense to take advantage of them. Such was the good fortune of Edward Bok, one of America's most successful journalists. At the time, of course, this boy considered these opportunities as hardships. The following extracts taken from his autobiography now in its 20th edition tell the story.

> "When very small boys, he and his brother relieved their mother in the household work by rising early in the morning, building the fire, preparing breakfast and washing the dishes before they went to school. After school they gave up their play hours and swept and scrubbed. The copestone of humiliation seemed to be when Edward and his brother, after having for several mornings found no kindling wood and coal to build the fire, decided to go out evenings with a basket and pick up what wood they could find in the neighboring lots and the bits of coal left on the curbs where coal had been delivered."

Edward Bok's first job was washing the shop window of a bakery for which he received 15 cents a week. In a short time he was receiving $1.50 a week for as much of his time as he could spare after school. At the age of thirteen this boy left school and went to work. He readily and willingly turned his hand to anything there was to do. He never attempted anything that he did not make a success of because he was always an earnest and painstaking student of whatever job he was doing, with the result that in time he was one of the best informed and best educated men in the country.

No Excuse For Being Uneducated

So often it happens that a person makes the mistake of going through life with no more education than his father gave him. He feels that the school is the only place where an education can be had, and if circumstances are such that he cannot leave his work and return to school he concludes that he will have to do without it. This is a great mistake, for often the best educated, as in the case of Mr. Edward Bok, are those who studied at home. In fact, self study, whether at school or at home, is the only way of acquiring mental muscle. It is also the only way in which much of the most reliable of our information is gained.

The schools, colleges and universities are not the only places where an education can be had, nor are they the places where the most useful education is often acquired. The boy who goes to work directly from the public school, but who continues to study, frequently has the advantage, particularly in many kinds of industrial or commercial pursuits, over his brother who goes through the high school and the university before entering business.

But the difficulty heretofore has been that so few continue to study after they leave school.

Few men have arisen from such small beginnings or attained the heights of success of the late Mr. Andrew Carnegie. He began life without capital, without family influence and without an education. But by hard work and study he became a foremost captain of industry, acquired great wealth, and was generally regarded as a well educated and highly informed man. His experience with men and affairs was exceptionally wide and intimate. In his book "The Empire of Business," he has this, among other things, to say of the manner in which the most useful education may be acquired:

> "In my own experience I can say that I have known few young men intended for business who were not injured by a college education. Had they gone into active work during the years spent at college they would have been better educated men in every true sense of that term. Their fire and energy have been stamped out of them."
>
> "It is the poor clerk and working mechanic who finally rule in every branch of affairs, without capital, without family influence and without a college education."

Ambition and the will to work and study alone ensure success, is the opinion of Thomas A. Edison, according to an interview recently published in the daily press.

The late Mr. R. T. Crane, the founder, and up until the time of his death, the president of the Crane Company, began life, like Carnegie and Edison, without money, without family influence and without education. In the course of his life-time he has done much for sanitary engineering and, at the same time, built up an institution which now gives employment to over sixteen thousand men and women. In his book "The Utility of all Kinds of Higher Schooling," Mr. Crane says, among other things:

> "The real captains of industry are found among the mechanics and inventors. The inventor and the mechanic made England the industrial marvel of the last century; they are making America the industrial marvel of this century. Therefore, to the turning out of skilful mechanics, which include most of our inventors, we should devote our best energies and our highest intelligence."

Mr. Crane believed that in the process of making mechanics "All general schooling above the public grammar school is unneccessary." He says that in the Crane Company they "have no trouble in training boys to make mechanics." The truth of this statement lies in the fact that the product of the Crane shops in both men and materials has been generally accepted and even sought after.

These examples and opinions are presented to show that attendance at a university, college or even a high school is not necessary to the acquiring of an education and, further, that the most useful education is acquired by home study.

The boy who has gained a knowledge of mathematics, mechanics, physics, chemistry or electricity while at his work in industry has a more useful conception of the things he has learned. For instance, the conception which the academically-trained mind has of a "cam" has been gained from the picture in the book from which he studied it. But the conception which the person in a pulp and paper mill has is of the "cam" on the screen or jigg, in actual operation. Speak of a "cam" to a person who has studied this mechanical principle in the stamp mill of a gold mine and the picture that comes to his mind is that of the "cam" raising the stamps to allow them to drop on the ore and crush it. To a person working in a print shop the picture which the word "cam" calls to mind is that of the "cam" in operation on the linotype machine raising and lowering the lever that carries the matrices back to the distributor after each slug is cast; or the "cam" that shoves the metal pot in place and at the proper time squirts the molten lead against the matrices to form the line of type. The man who has studied the mechanics of the "cam" only in the schools, colleges or universities can see only the motionless picture of the line drawings and photographs, while the man who has studied it in the shops or factories, has mental pictures of the mechanical principles of the "cam" in operation.

In the same way the person who has studied the mechanical principal of the "eccentric" on the steam engine opening and closing the throttle valve; or of the "eccentric" operating the cutting bar of the mower or self binder in operation has a more useful conception of this mechanical principle than the student who has studied it only from books. Of course to the workman who has not studied mechanics at all the words "cam" and "eccentric" are mere names of the parts of the machines he is working with.

The practical carpenter finds the square corner of the building he is laying out by nailing together the ends of three straight pieces of lumber, six, eight and ten feet long. But this carpenter seldom knows why he does this.

On the other hand the college man knows that the sum of the square of the sides of a right angle is equal to the square of the hypotenuse and the enunciation of this principle calls to his mind a picture something like this

$$a^2 + b^2 = c^2$$

But he seldom has any conception of its application. The carpenter who has studied this principle while plying his craft has the only true and useful conception.

The last thirty-five or forty years have been the great age of discovery and invention, particularly in the matter of automatic machinery; yet scarcely any of the wonderful machinery that may be seen in our shops and factories or on our farms is the product of academically-trained minds. It has almost invariably been developed by minds that have been educated while plying their crafts; and the reason is that in the one case the mind works only with motionless pictures and according to set formulas, while in the other case it works with conceptions of living motions and principles.

Generally, it may be said, the first type of mind works only with what it has learned, while the other applies what it has learned and is also capable of improvement and invention.

The Apparently Dull Youth Very Often Becomes The Brilliant and Successful Man

Very often a person does not return to study when he begins to feel the need of more education, because it may be that when he was at school he was not a particularly good student. Here again he makes a mistake. The best boy at school does not always make the most successful man. In fact, there are so many conspicuous examples of successful men who as boys were impossible students that it is doubtful if the erstwhile exception has not become the rule, which, after all, is not without reason. The two qualities necessary to success are initiative and determination, and the boy who possesses these does not take kindly to the routine of school life. He is apt to be restless and mischievous and exhibit a strong desire to do things for himself. To him school life is irksome and he quits it at the first opportunity. This boy may possess the greatest potentialities for success as a man, providing facilities and encouragement arouse in him the desire to study when he can make good use of it. At this time study develops his initiative, strengthens his mind and fires his ambition along useful lines. With education this boy becomes a mechanic (the highest and most useful form of mental development) and a most useful citizen, and is likely to become a leader in industry. But if he does not get started on the upward road he is likely to be troublesome. He is always anxious to do something or be something. If he does not succeed he becomes dissatisfied with his lot and not infrequently is tempted to violate the laws of good citizenship.

There is nothing like a combination of work and study to straighten out the kinks and clear one's vision. It is the only road to success. Half an hour a day spent in study is worth more to one's future than the rest of one's leisure hours spent in any other way. This is particularly true if the subject studied pertains to the daily work of the student.

The Working Student Develops Greater Intelligence than the Day School Student

In an intelligence test conducted recently by Frederic B. Robinson, dean of the College of the City of New York, it was found that the person who works during the day and studies at night grades higher than the day student. He says of his test:—

> "Despite the fact that the day students generally had educational and cultural advantages, the more mature night students, with the benefit of their practical experience, outstripped them emphatically. Their average mark was 80.3 while the regular day students could average only 70.5."

It appears that mental development is very pronounced among workers who study. The mental effort that produces the trained artisan may be continued to develop the successful superintendent, manager, inventor, engineer, or scientist.

The World Owes her Greatest Progress to her Working Students

During the ages, from the dawn of civilization, when the student was a recluse, or a person of leisure, living apart from the common people, pursuing his inquiries and investigations remote from the workshops, the world made little progress. The few investigators made their studies as a matter of curiosity or wizardry, and little or no practical use was made of their knowledge and discoveries. In those times the craftsman made no attempt to study. He practised his art according to rules laid down from father to son and from master to apprentice.

The first contact between study and work is to be found in ancient warfare, where, to gain an advantage or overcome an obstacle, it was necessary to invent an engine of war, construct a bridge, or build a military road. The experience gained in this contact is also reflected in the building and construction of the times and in the use, to some extent, of cement and of metals.

The second point of contact appears at the dawn of navigation when the knowledge of astronomy was made use of in the sailing of the seas.

The man who really formed the connecting link between that age and the one in which we live, was Sir Isaac Newton, one of the most notable scholars of all time, who lived between the years 1642 and 1727.

Newton was born on a small farm in Lincolnshire. He received a very good education and even spent some years at Cambridge University. But the studies he made there seem to have been of very little value in developing the mechanical and inventive ability which meant so much to him and to human progress. Newton tells us himself that when he purchased a book on astrology at a local country fair he was unable, on account of his ignorance of trigonometry, to understand a figure of the heavens which appeared in this book. He bought an English edition of Euclid, with an appendix of propositions. Having mastered this he applied himself to the study of geometry, which so inspired him with a love for the subject that it carried him into higher mathematics and thence to the discoveries and inventions by which he will be known and remembered for all time.

The Dawn of Mechanics

The third and most important point of contact between work and study dates no farther back than 1705 when Thomas Newcome, a blacksmith, as a result of thoughtful study, succeeded in inventing a steam pump to keep water out of the mines.

Newcome's steam pump was a very crude affair. It consisted of a boiler and a vertical cylinder containing a close fitting plug or piston. When steam was admitted from below, the piston was forced upwards and the motion was communicated to a pump through a piston rod and beam or lever.

This was the state of the steam engine when James

Watt, the hero of applied science of the 18th century, came upon the scene. Watt was the son of a carpenter and shipwright and entered industry as an apprentice to an optician in Glasgow in 1754. His attention was turned to the steam engine in 1759. He read everything that was available on the subject of steam and made some preliminary experiments. The first satisfactory Watt engine was erected in 1776.

The success of Watt's engine turned men's minds to the idea of applying steam to propel carriages and many experiments along this line were made by the best scholars of the day. But the first really successful steam propelled vehicle was built by George Stephenson, the self-educated engineman at Killingworth Colliery about 1815.

The Beginning of Modern Science

The latter half of the 18th and the first quarter of the 19th century was a time of great scientific activity, when scattered fragments of knowledge were rapidly being welded into coherent groups. Mathematics and astronomy were already well advanced, but chemistry and physics were just being born.

Priestley, by his brilliant, but erratic experiments on air and other gases; Black by his painstaking investigation of alkaline earths, paved the way for Lavoisier who gave a new meaning to the term "chemical change". Scheele in Sweden and Davy in England, were isolating new substances and widening the range of chemical knowledge. Benjamin Thompson proved what Watt had suspected—that heat is a form of energy.

The Development of Mechanics

While the foundations of science were thus being well and truly laid the science of mechanics was being born. Machinery, mechanical power and transport were being developed by Hargreaves, Arkwright, Cort, Cartwright, Smeaton, Rennie, Murdoch and others of lesser fame.

The Dawn of Electricity

About the same time Oersted, Ampere, Davy and Faraday were building up a body of organized facts upon Volta's electrical discoveries of 1800.

The Number of Working Students Increases

About the middle of the 19th century thoughtful, studious mechanics began to appear in larger numbers as a result of a wider circulation of technical and other educational books, and directly proportional to the increase in the number of mechanics there appears an increase in the number of mechanical inventions, such as the reaper, the sewing machine, the telegraph and the vulcanization of rubber. During the immediately succeeding years the telephone, the dynamo and the arc lamp appeared; but it was not until 1880, when the number of thinking, studious workers (mechanics) was considerably increased, that these inventions began to be manufactured and applied to the general use of mankind in the way that has meant so much to the comfort and prosperity of the world.

With the year 1880 the world entered upon a period of invention and discovery undreamed of before. ''Scientific American'' of June 5th, 1919, refers thus to this wonderful period:

> ''The ten years beginning with 1880 saw an outburst of inventive and mechanical activity that dwarfed all similar periods in the history of invention. It seemed that the discovery of things electrical in the last three or four years of the previous decade was a signal for the pent up energies of the world to be let loose.''

This outburst was directly due to the increased number of educated, thoughtful men—mechanics in every sense of the word—that was beginning to appear in shops and factories. It was the direct result of the free public schools that had been established during the previous twenty-five years in Great Britain, the United States and Canada, coupled with increased facilities for procuring technical books in larger numbers and at more reasonable prices.

It was the practice of the youth of the country to go directly to work after receiving a public school education and to continue his studies by self instruction with the books pertaining to the work that he was doing.

The ten years from 1880 to 1890—the most wonderful period in the world's progress—produced the trolley car, the incandescent lamp, the automobile, the typewriter, the cash register, the steam turbine, the gasoline engine, the typesetter and caster, the cyanide process, electric welding, smokeless powder, the phonograph, the air brake, the transparent film, the pneumatic tire, the half-tone process, the car coupler, the cream separator, dynamite, and so forth.

In this period, the generation and utilization of electricity were developed and the dynamo, the transformer and the motor began to be manufactured on a large scale. In this decade the high furnace heat which only the electrical current can produce, aroused the chemical and the metallurgical student to efforts that have meant more to science and its application to industry than is generally understood. In fact, the discoveries and inventions that were made during those years seemed to leave little to be found.

Work and the Student Drift Apart

Invention and discovery have continued, but at a lessening rate. Since then, the world has received wireless telegraphy, the flying machine, pneumatic tools and a few others. The reason for this slowing up would seem to lie in the fact that after the first period of expansion of the free public schools, the world entered upon a new period characterized by the development of large educational centres which grew out of the belief that the more education one had the better was he or she fitted for a successful career, industrial or otherwise. This new development generally took the form of increased interest in the then existing educational institutions. The matriculation requirements and curricula of the old classical universities were accepted as the foundation on which the new educational structure was to be built. These curricula were better suited for the making of scholars, lawyers, doctors, theologians, and pedagogues, than they were to the making of mechanics. They automatically shut out the student who wished to specialize for an industrial pursuit. If he tried to surmount these obstacles he ran the risk of losing his original purpose and being diverted from the sphere of industrial work to one of the so-called nicer professions. He had to pass a matriculation examination that was much more comprehensive than was necessary for a specialized course fitting him for an industrial pursuit, and he must be in a position to leave the industry in which he was working and spend the greater part of four or more years at a university attending classes, many of which had little or no bearing on the subject in which he wished to specialize.

This new educational development tended to weaken the ranks of industrial workers by drawing away from them many of the brightest and most progressive minds.

The classical training which was the foundation upon which the university was built was not calculated to contribute much to modern material progress. It had its conception in the ancient Greek-Roman periods.

It has been truly said 'knowledge is power,' but knowledge in itself is not power. Only applied knowledge is power. Knowledge is like money, not valuable in itself but only valuable for what it will buy. Knowledge is a strong weapon, but the best weapon is useless to a man who does not know how to wield it. Knowledge is an elementary power, but the power of Niagara, or of steam, or of electricity was useless to mankind until intelligence directed that power to some practical purpose. The Chinese knew magnetic iron long before the Europeans knew it. To them it was a piece of iron and nothing more. Handled by the intelligent mechanics of Europe, magnetic iron became a useful power in the form of the compass which gave Europe the rule of the seas. The Chinese also knew gunpowder before Europeans knew it, but to them it was only a plaything used in fireworks.

There was another result which was produced by the character of the work done at the classical universities, particularly in the nineties and the early part of this century, that is even more discouraging because it has been largely responsible for the indifference which many employers show towards the education of their employees. Parallel to the trend of academic thought at the universities, there grew up in the student's mind a dislike for manual labor. This led the average youth to look upon education as a means of getting away from hard physical work, and at the same time left the employer with the suspicion that by training the minds of industrial workers they will become less inclined to work with their hands. This suspicion is without foundation. True, the average young man educated at a university does not like hard physical work, not however because he is educated, but because he is educated in the wrong atmosphere. If he had received his education while at work in the shops—an education that applied to and made his work more comprehensive and interesting—he would not dislike physical work or dirty work. In other words, the educated mechanic does not hesitate to do any kind of work that lies before him.

Work and Study Begin to Come Together Again

But the unadulterated classic atmosphere of the universities did not continue for long. The greater number of successful men in industry, and particularly those who had accumulated wealth, did not possess a university education, and in their business they found that the possession of a university degree was no guarantee of usefulness. This led to the establishment of a more useful course of an industrial or vocational nature, by either additional faculties in existing educational centres in the form of schools of practical science, mining schools and so forth, or as independent institutions, such as agricultural colleges. The attendance in these new utilitarian faculties and institutions increased rapidly. In a further effort to bridge the gap between college life and the business for which the student was preparing himself, these science and mining schools, agricultural colleges and other similar institutions advised, and in most cases insisted, that the student spend a part of his time at work in the industry he was preparing for. But even this does not seem to give the training best calculated to produce the educated mechanic. The system by which work is made subsidiary to study does not seem to be so effective as when study is made to supplement work.

Moreover, the matriculation requirements for attendance at many of these schools, while considerably modified, still bear traces of the academic influence in that they insist upon a knowledge of unnecessary subjects which, together with the requirements of attendance at intra-mural classes, operates to exclude the great body of workmen from any benefits these institutions have to offer.

The educational institutions that best serve industry are those whose doors open directly into the work shops and whose courses may be taken either by attendance at classes or by correspondence, as best suits the circumstances of the student.

In most industrial occupations a knowledge of the fundamental principles of mathematics, mechanics, physics, chemistry and electricity, is highly desirable on the part of the operator for the protection of life and for economic production. To the mechanic, overseer, foreman or superintendent this knowledge is becoming more necessary from day to day. The great majority of these seldom go beyond the public school and to get the necessary instruction some other facilities had to be discovered or invented.

The Advent of the Correspondence Instruction

It has not infrequently happened that a necessary reform or invention has had its inception in the ashes of a great disaster. The history of human progress is studded with milestones that stand as monuments to men and women of exceptional foresight and courage, who received their inspiration at the time of a calamity, labored to avert a repetition, and succeeded in conferring a blessing on humanity. Such a monument will surely be placed, by future historians, to the memory of Mr. T. J. Foster, who first devised a system of correspondence instruction.

Mr. Foster was among those present at the Avondale mine fire — a great coal mining disaster in the United States.

This experience ripened a conviction that had already begun to take shape in the mind of young Foster, namely, that much of the disaster and loss of life in the coal mines of Pennsylvania was the result of ignorance on the part of the officials and workmen. Foster was a close student of the technical literature on coal mining that had already begun to come from England and Germany, and he decided to start a movement calculated to disseminate some of this technical knowledge among the miners. He organized a local paper, "The Colliery Engineer," and through its columns gave instruction in mine ventilation, mine surveying and mine mechanics. In 1885 the State of Pennsylvania passed a law requiring definite educational qualifications for the more responsible positions among coal mine workers.

In order to assist candidates for these positions a considerable portion of the Colliery Engineer was devoted to answering the questions asked by state examiners and also to a Correspondence or Answers to Inquiries Department.

To aid miners in their studies, Mr. Foster also issued cheap editions of the best English elementary mining works. At this stage he conceived the idea that perhaps correspondence teaching could be successfully employed and he commenced the preparation of a series of clear, concise instruction papers covering mathematics, English and other elementary subjects necessary for miners to know in order to pass their examinations. This marks the beginning of a new system of education and one that is best adapted to the industrial worker and best calculated to produce the efficient mechanic. The total enrolment of students in the United States and Canada up to a short time ago was over three million and among these are to be found many of the most successful men and women of the present time.

Education in Pulp and Paper Making

The success of the Foster system of education led many of the larger shops and other organizations to adopt it. The most recent stage of its development is to be seen in the course of correspondence instruction that has been provided for the workers in the pulp and paper industry by the joint efforts of the Pulp and Paper Associations of Canada and the United States. In September, 1918, a joint international committee was formed to devise means of giving instruction to the pulp and paper workers that would be of the greatest use to them. The chairman of the committee was Mr. Geo. Carruthers, president of The Interlake Tissue Mills, Thorold, Ontario, and the secretary was Mr. R. S. Kellogg, secretary of the News Print Service Bureau, New York City.

When it was decided that the Foster system was best adapted, Mr. T. J. Foster was engaged in a consulting capacity. The committee also employed Mr. J. J. Clark, who for many years was the chief text book writer for the schools organized by Mr. Foster; Mr. J. N. Stephenson, Editor of the Pulp and Paper Magazine of Canada was appointed Editor-in-Chief of the series of text books then decided upon, and in order that these text books be complete and up-to-date many of the best men in the pulp and paper industry of the United States and Canada were commissioned to prepare the manuscript, each covering the practices or processes on which he was a recognized authority.

This course of study is one of the most complete that has ever been prepared. It begins with the subject of numerals and addition, carries on through arithmetic and mathematics as applied to the industry of pulp and paper making, then mechanics, (including reading of drawings), physics, (including hydraulics), chemistry and electricity. This part of the course is covered by the first two volumes. The last three volumes deal with a very thorough study of all the up-to-date equipment, practices, and processes in the industry. Much attention is given from the start to correct expression, and the necessity for solving difficulties by correspondence provides excellent practice in composition and letter writing. To be able to write a good letter is an accomplishment that contributes much to success in most lines of work.

From time to time pulp and paper mills in Canada and elsewhere have attempted to carry on educational work such as courses of lectures and night classes, but have always met with the difficulty presented by the great difference in the educational standing of those wishing to study, as well as the difficulty arising out of progressive shifts.

Study by correspondence overcomes these obstacles in that every student is a class unto himself. He can begin the course at the point where his present educational equipment enables him and he can take it as rapidly as his ability and time will permit. Furthermore, he does not require to dress after his day's work in order to go to class. He studies in his own home where his work will be an example to the other members of his family, encouraging them to make better use of their time in the public and high schools than the boys and girls have been doing heretofore.

The course has been prepared to enable the practical man in the industry to get an education and training in the technology of the industry and to enable the technical man to study something of the practice. It will give both a wide knowledge of all the practices and processes in the manufacture of pulp and paper. It puts both these classes in line for a progressive and most useful life in the industry. The only requirement to begin the course is that the student should know how to read and write, and there is no limit to the age at which the student may take it. The course is given in both French and English.

This educational work is intended to create a school of advanced and progressive thinkers in the industry. The pulp and paper industry is still in its infancy, as most other industries are, and its future development will be directly proportional to the intelligence and thought expended by those in it.

After passing the arithmetic section of the course which is given in the first three study papers, the student may become a student member of the Technical Section of the Canadian Pulp & Paper Association. After passing the whole elementary and basic science portion of the course covered by the first two volumes of text books, the student member is advanced to junior membership and when he has covered the complete course he receives a diploma which qualifies him for full membership, on complying with the other requirements.

How the Course is Conducted

At most of the large mills there is a local educational committee. Neither the mill nor this local committee takes any responsibility for the contract the student has made with the Association or its agent to take the course. The purpose of the committee is to give any assistance it can in helping to straighten out difficulties and in encouraging and assisting the students to continue their courses through to the diploma. Many mills have provided a study room with a tutor, who is present to give assistance at certain hours on certain evenings in the week. In some cases the committee has even undertaken to send some tutorial assistance to the homes of married men. These courses are conducted by the Industrial & Educational Publishing Company, acting as the agent for the Canadian Pulp & Paper Association, under the name of the Institute of Industrial & Domestic Arts. The work is conducted from the **Garden City Press**, Gardenvale, P. Q., under the direction of Mr. J. N. Stephenson, as Principal, Mr. J. J. Clark as Vice-Principal, Mr. T. Linsey Crossley, Director of instruction in English and Mr. Paul Piché, Director of instruction in French. Students are advised by mail and by personal solicitation to take the course, and are encouraged to continue it through a carefully compiled series of inspirational letters that have been prepared under the direction of Mr. T. J. Foster.

As soon as a student is enrolled the first two study lessons with full instructions are sent to him. When he has completed the first he writes an examination paper. If his standing is sufficiently high he passes on to the next and the third is sent to him, so that he always has a lesson assignment in hand, but is not faced with the discouraging proposition of attacking a whole book at once.

A number of the mills have assisted the students by advancing the cash price and collecting from the student in weekly or monthly amounts that can be afforded by the student, and quite a number of the mills have offered to rebate all or part of the total fee in the case of students completing the course and being still in the employ of the mill.

The pulp and paper courses have been dealt with rather fully here as an example of the manner in which the educational work at the **Garden City Press** is being developed in close association with the industrial life of the country, both as regards the preparation of text books and methods of instruction.

In the matter of text books insufficient attention has heretofore been given to the influence exerted on the mind by the impressions gained from reading. If the young man or women in the textile or fishing industries is compelled to study from text books prepared by authors who have little or no knowledge of these industries, we need not be surprised if what is learned in this way proves of little value to these industries. For the same reason, while the Canadian people have no other means of studying the industrial and commercial geography of their country than from text books and other volumes in which Canada does not receive the attention she deserves, we cannot complain if our people begin to wander off in the direction these volumes would lure them. For instance, one of the most recent volumes and one which, no doubt, will be generally accepted as standard, is ''Business Geography,'' 1922, edited by four well known American geographers and published by John Wiley & Sons, New York City.

On page 326 of this volume a table of the world's mineral production by continents and the percentage of the whole which the United States contributes is given. But nickel, asbestos and cobalt are omitted. Now the north American continent produces the world's requirements of these three important minerals. But it all, or practically all, comes from Canada. Again, under the heading "Farming In Typical Parts of the United States and Canada" on page 349 the following appears: "The wheat belt of the great plains of America comprises the States from North Dakota southward to Oklahoma and even northern Texas." Now the fact of the matter is that North Dakota in 1921, which, no doubt, would be the year the author would be working with, produced 73,264,000 bushels of wheat. Its neighbour to the south, namely, South Dakota, produced 25,980,000 bushels, but the Province of Saskatchewan lying immediately north of North Dakota produced in the same year 188,000,000 bushels. The average yield per acre in North Dakota for that year was 8.3 bushels and for the whole of the United States 10.5 bushels.* The average yield per acre in the Province of Saskatchewan was 13.75 bushels, and for the whole of Canada 12.75 bushels.**

The commercial fisheries, which have so effectively laid the foundation for the Maritime ascendency of Great Britain and Japan, and which provide a considerable and valuable source of food supply is mentioned in a decidedly derogatory spirit in this volume.

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* Year Book of the United States Department of Agriculture, 1921.

** Canada Year Book, 1921.

The pulp and paper industry and water powers receive no mention whatever.

In its preface, this volume is recommended as a text book for Canadian students in the following words: "The treatment of Canada presents a somewhat difficult problem. To all intents and purposes the well inhabited part of that country is merely a northern extension of the United States. It has been treated as such in the present volume, but is inevitably overshadowed by the United States. If further study of Canada is desired the teacher is advised to use the text and especially the tables of Colby's Source Book of North America Geography and to modify the exercises for the United States so that they apply to Canada. If this is done "Business Geography" will serve for Canadian students as well as for those of the United States."

"Business Geography" is edited by two professors, a research associate professor and a teacher specialist of four of the leading educational institutions of the United States and would readily be accepted as authentic by any teacher or student who had not a first hand knowledge of the industrial and commercial life of the country.

Our first impulse on reading this volume is to be annoyed by this sort of omission. But after all, the authors are under no obligation to write about Canada. Their primary purpose is to produce a text book that will get the United States market by being acceptable to the State educational authorities. If they told all the facts about the business geography of the North

American continent their volume might not be allowed into the schools of many states. During the last few years hundreds of millions of United States capital and hundreds of thousands of her citizens have come to Canada. They are found in all parts of the country and in every industry. It is the only country that seems to attract them in large volume and numbers. They do not seem to regret their move northward, and being happy, progressive and highly intellectual, with the same language and ideals as ourselves, they are very welcome. This being the case it is not difficult to imagine what would happen if the whole story about Canada was told in the literature that is read and studied by the youth of the United States or any other country.

But unfortunately this story has not yet been put into even the text books of our own country. There is no industrial, commercial or business geography of Canada. Those who inquire at the book stores for one, receive a copy of such as is referred to above—one likely to make the student dissatisfied with his own country and discouraged by the lack of opportunity it would seem to hold for him.

It is the purpose of those at the **Garden City Press** to correct this mistake. The periodical literature, text books and inspirational letters that go out from that centre carry a message such as is outlined in the next chapter—a message of the wonderful opportunities which the undeveloped resources and the industries of Canada offer the able bodied and the ambitious as well as the advice and assistance necessary to a successful life work in them.

CHAPTER II

OPPORTUNITIES, WHERE TO FIND THEM AND HOW TO TAKE ADVANTAGE OF THEM

The strongest tendency that the average worker has to fight against is the disposition or belief that there is some other job at which he could make more money or find greater pleasure in doing than the one he is at. This tends to make him dissatisfied with his job. He concludes that he should not study it because he intends to leave it as soon as he can get what he thinks is a better one. He leaves it or (which is more likely) he loses it. At close range the new work does not possess the attractions it seemed to have at a distance and in a short time he has the same disregard for his new job that he had for the old one. And so he goes on from one job to another. "Too many people are like the man who travelled the world over seeking a four-leafed clover, only to find it, too late, in his own garden. They see opportunity everywhere but where they are; and lo! there and there only it is to be found by them."*

Years go by and in a short time he finds himself in the class of unskilled floaters, uninterested in his work, unhappy in his home, and always a lap or more beyond his income. As in the case of his work, his home life lacks order and foresight. As age creeps up his physical powers wane and his earning power, unsupported by a trained mind, declines. Hampered by poverty and debt, he and his family are forced to live in squalid surroundings with poor furniture, mean clothes, and no pleasures worthy of the name. He and his family live in constant dread of anything that will stop the meagre income even for a day. There is no chance now to lay by for old age or sickness.

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*T. J. Foster in his advice on how to succeed.

Is there anything more to be dreaded than the consequences of an ill-regulated or non-regulated life? Yet how many young men and women ever stop to give this matter a thought. Without purpose or determination to accomplish something definite, they drift along. By a few hours of indifferent work each day they earn their daily bread and the remainder of their waking hours are spent in idleness or in the pursuit of pleasure.

There is just as much pleasure, and a great deal more happiness, to be had from a life of earnest work and study as from a life of idleness and indifference. To make the change requires only a resolution and a concentrated effort for a few months until the habit is formed. Moreover the start may be made at any time and while at any kind of work. The subject to be first studied is elementary arithmetic; then mathematics, mechanics, physics, chemistry and electricity. These are fundamental subjects, absolutely necessary to a course of study in the practice and processes of any important industry, and highly desired for the mental training they give. If one wishes to become a strong well-balanced thinker the brain must be trained, just as the muscles must be trained if one desirses to excel in athletics. Brain power or brain muscle is made by study.

At the same time that the above-mentioned fundamental subjects are being studied, some attention should be given to the Industrial and Commercial Geography of the country, in order to find out where the opportunities for a satisfactory and successful life work lie. But once a selection is made, every effort should be bent in the direction of making a success of it. Study it in all its details and ever strive to know all there is to be known about it. If this line of work is ever left it should be because a larger field has opened up by reason of the success attained in the first.

Commercial Geography

A matter of great importance to any industrial country is the availability and quality of her markets. In this matter Canada is more favorably situated than any of the principal newer countries. In ordinary times the greatest market of the world for all kinds of products is Europe. According to Lloyds Calendar, it requires from 36 to 42 days for mail to pass from the principal ports of New Zealand to London; from 26 to 33 days from the principal ports of Australia; from 17 to 22 days from the principal ports of South America; from 17 to 21 days from the principal ports of South Africa and from 14 to 16 days from the principal ports of India; but only from 7 to 8 days from the principal ports of Canada. The time required for the passage of freight cargoes is longer than for mail, but the relative time required for a cargo of freight to pass between London and the principal ports of any of the countries just mentioned is indicated by the above figures. These figures also indicate the relative time required for communication and of the cost of cable dispatches, a consideration of great and growing importance to trade and commerce.

The world's market second in importance is that of the United States. As regards this market none of the newer countries is so favorably situated as is Canada.

Japan and China offer the market of third importance; and with regard to this also, Canada is as favorably situated as any of the above-mentioned countries and much more so than most of them.

Thus Canada lies midway between two of the world's greatest markets and in the closest proximity to the third. The value of such a position is best appreciated by those who know the advantage of being able to take orders more readily and make delivery in less time and at less expense than competitors.

Another advantage by reason of position lies in the fact that Canada is in the same hemisphere as the world's three premier markets. Her perishable goods and live stock are not exposed to the danger and expense incident to a trip across the torrid zone on their way to market.

Canada lies almost wholly in the temperate zone, where crops mature rapidly and are less subject to the drought and insect pests that infest warmer climates. She is also comparatively free from earthquakes, tornados and the like. Her climate is healthy and invigorating, and the long, cool evenings of her winters are conducive to study and reading.

"The great civilizations of all time seem to have arisen where nature made production possible only a part of the year, and thus made it necessary for man to work and save up for the time when he could not produce .. .. Cold is a great stimulus to activity. Men and animals alike want to move more rapidly on a brisk, cold day of winter than on a sultry summer afternoon. This is as true of nations as of persons. The most energetic and powerful nations are those living in a climate where frost forces them to activity and where the warm summer enables them to produce vast supplies of food."*

Industrial Geography

But Canada's greatest asset lies in the wealth and extent of her natural resources, and by far the largest number and the finest opportunities for successful life work are to be had in the industries that have to do with their development.

In these pages it is impossible to give anything like a comprehensive account of the Commercial and Industrial Geography of Canada. This is given in the "Canadian Directory of Industry, Commerce and Finance" which is published annually at the **Garden City Press.** The most that can be attempted here is a short summary that will serve to indicate where the opportunities are and how one should proceed to discover and study them.

Before the advent of the railroad, all settlement and hence all industry and commerce were confined to a narrow strip of land a few miles wide lying along the shores of navigable waterways. But today the railroad is the artery that carries life in the form of indus-

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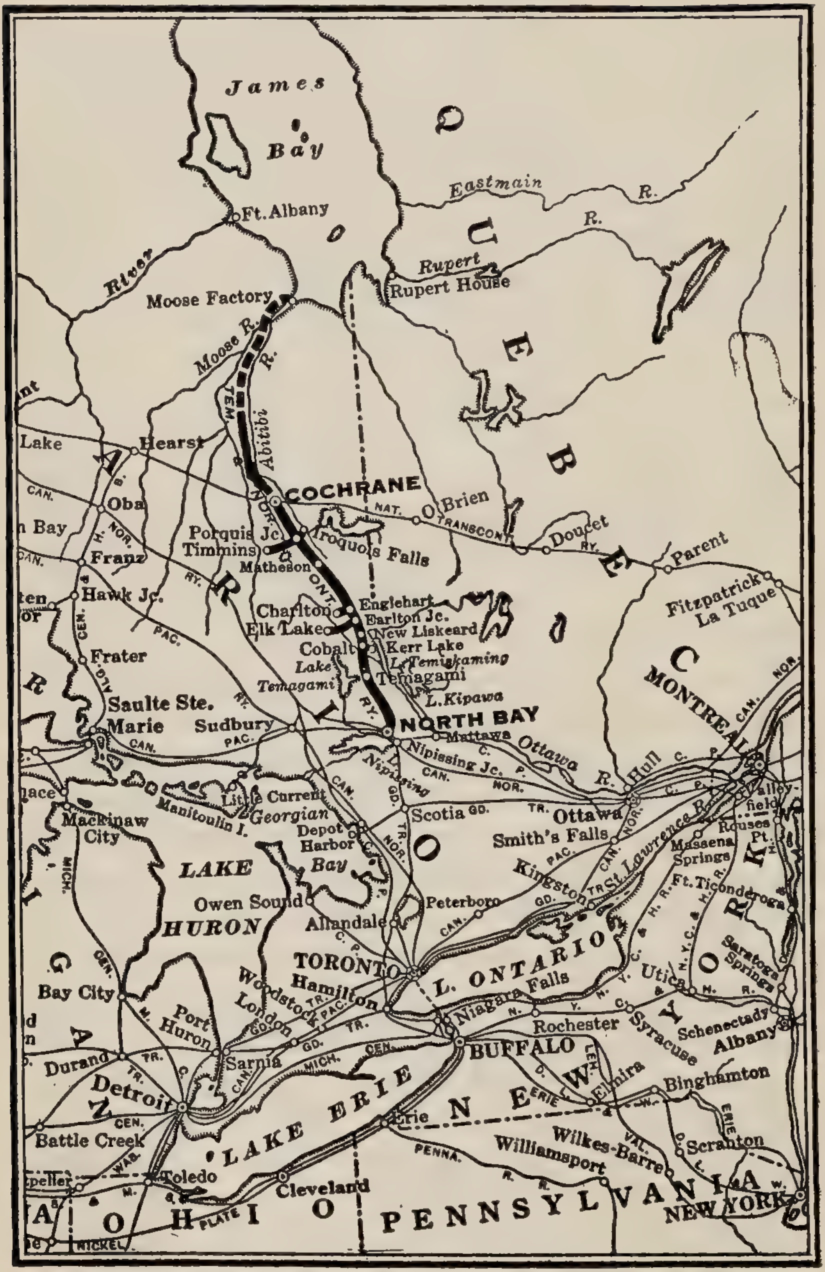
* J. Russel Smith in "Industrial and Commercial Geography."



MAP SHOWING NEW ONTARIO AND T. & N. O. RAILWAY trial and commercial activity to wherever potential prosperity is to be found.

The first railroads to be built in Canada all ran east and west, but of late they have been pushing farther and farther north into Northern Quebec, Northern Ontario, Northern Manitoba, Northern Alberta and Northern British Columbia. In each case these roads are opening up new fields and planting industries upon newly discovered resources.

To take one example: the end of steel of the Temiskaming and Northern Ontario Railway which started but a few years ago from North Bay is now thirty miles north of Cochrane and within one hundred and forty miles of James Bay. In less than two more years one may leave Toronto or Montreal any evening and within thirty hours be bathing in the salt waters of this great inland sea.

At Iroquois Falls, this railroad has planted the Abitibi Power and Paper Co., already the largest individual pulp and paper mill in the world. Every morning except Monday a train of from twenty to twenty-five cars of newsprint leaves this mill and travels as a full news print train to North Bay where it is broken, part of it going west to Chicago and part continuing south to New York. The trip from Iroquois Falls, which is within two hundred miles of James Bay, to New York is made by freight in forty-eight hours.

A few miles west of Iroquois Falls the T. and N. O. Railway has opened up what is likely to become the greatest gold camp of the continent. It is only a few years old, yet its total production up to the end of 1922 was over one hundred and ten million dollars. The output for the year 1922 was about twenty millions of which one mine, the Hollinger, produced twelve millions which output makes it one of the largest gold mines in the world, if not, indeed, the largest.

About one hundred and seventy-four miles farther south the T. and N. O. Railway is responsible for the development of the Cobalt district, which up to the end of 1922 had produced over Two Hundred and Fourteen Million Dollars in silver and cobalt. When to these figures, is added the One Hundred and Seventy Million Dollars' worth of Nickel and Copper already produced by the mines in the neighbourhood of Copper Cliff, it will be seen that the mineral wealth already produced by New Ontario amounts to about Five Hundred Million Dollars.

The Hollinger Mines Ltd. and the Abitibi Power and Paper Co., Ltd., which are only two of hundreds of industries that are already established in New Ontario, provide fine examples of the national value of successful men and at the same time indicate the magnificent opportunities in the most outlying areas of Canada that await those who will prepare to develop them by giving some attention to organizing their careers along the lines of self-study, intelligent and earnest work and reasonable economy.

Viewing the situation as it is from the **Garden City Press**, industries are but monuments to the work of suc-

PLANT OF THE HOLLINGER MINES, LTD, TIMMINS, ONT.

cessful men and women. Without men and women with the will and perseverance to study, work and save, there would be no progress. No matter how rich may be the material resources of a country they remain dormant until out of the intellectual resources emerge men and women with the foresight, energy and means necessary to their development.

The town of Timmins, with its population of twelve thousand people and the roar of the thousands of stamp mills scattered around and about it that are busily engaged in pulverizing the ore for the concentration of the gold it contains, had its origin in the minds of a small group of men and owes its development to their direction and supervision. These men were the boys of but a few years ago, with no greater advantages than any boy of today possesses.

Mr. N. A. Timmins, after whom the town is named, is President of the Hollinger Mines Ltd., — the largest individual gold mine in the world. For the year ending December 31st, 1922, this company had a gross revenue of $12,824,608,25. and a net profit of $6,478,604,12. By the casual observer Mr. Timmins' great success might be credited to a streak of good luck. But this is not the case, as a review of his life's work will show.

Mr. Timmins was born in Mattawa, Ontario, which at the time was little more than a lumber camp. His father was a store keeper and lumber merchant. After a few years in the public school of his native town and four years at St. Mary's College, Montreal, he entered his father's business as clerk at the age of sixteen. Shortly afterwards he and his brother opened a branch of the business at North Bay, Ontario.

In studying the future possibilities of his business Mr. Timmins early began to realize that as the country around North Bay and Mattawa was not particularly suited to agriculture, once the timber was taken off, much of its future would depend upon the discovery of valuable mineral deposits, which then seemed quite promising, due to the recent discovery of rich copper and nickel deposits at Bruce Mines and Copper Cliff.

All his spare time was spent in studying mining and all his spare cash in prospecting and in the development of promising discoveries. For fifteen years he continued to put money into the ground without getting anything out. But since this process was accompanied by intelligent observation and study, including a correspondence course, and attendance at instruction classes conducted by itinerant lecturers sent out from the School of Mines at Kingston under the supervision of Dr. W. L. Goodwin, then dean of that institution, Mr. Timmins was securing the best kind of education for a mining career, and one that was bound to bear fruit in time.

MR. N. A. TIMMINS

As a result, he was one of the first to appreciate the value of the initial discovery made at Cobalt, Ontario. He acquired a quarter interest in the LaRose mine, and directed the first shipments of ore made from that property. When the first two cars of ore were ready to go forward in the spring of 1904 the syndicate of which Mr. Timmins was a member had difficulty in negotiating a loan of five thousand dollars, required to pay wages and freight to the smelter.

But these two cars netted them forty-eight thousand dollars and laid the foundation of their financial independence.

When in 1911 Bennie Hollinger and John McMahon offered for sale the claim they had staked in the Porcupine District, Mr. Timmins was not slow to appreciate its value even at the price of nearly a quarter of a million dollars. He and his associates afterwards purchased several of the adjoining claims which go to make up the property owned by the Hollinger Mines Ltd.

Up to date this property has produced nearly sixty million dollars in gold, earned over twenty-eight million dollars of profits, and paid over eighteen million dollars in dividends.

The contribution which the successful career of Mr. Timmins has made to Canada through the part he has played in the development of her mineral resources provides another fine lesson that should not be overlooked. He has always been interested in mine development for its own sake, and much of the money made thereby has been used for further development. Neither in the days of his financial adversity nor when he was becoming financially independent did he try to gain an advantage by unloading a worthless mine on the public. He has stuck to sound and legitimate development and steered clear of wild-cat promotions. Gambling or fraudulent methods seldom finds a place in a successful career. They tend to pull down and dissipate those who have anything to do with them rather than build up and strengthen.

In like manner the model town of Iroquois Falls and the adjoining communities of Little Canada and the Wye, with their four thousand inhabitants, as well as the mill and hydro-electric power plants of the Abitibi Power and Paper Co., Ltd., around which they have grown up, owe their existence to the foresight, intelligent direction and means of Mr. F. H. Anson founder and President of the above-mentioned company.

M. F. H. ANSON

Mr. F. H. Anson came to Canada from the United States in 1901 equipped with an education that included the study of law and engineering, with experience in railroading and with a thorough knowledge of the flour milling business. After nine years spent in perfecting the Ogilvie Flour Mills he sought a new outlet for his energy and ability. A thorough canvas of the industrial possibilities of Canada convinced him that the enormous resources of the Dominion in forests and waterpowers offered the opportunity he was looking for. His choice of the site at Iroquois Falls came about in a curious way.

As so many others have done, he agreed to grub stake two young prospectors who wished to look for silver in the region north of New Liskeard, which, at that time, was the end of the steel of the T. and N. O. Railway. After weeks of unsuccessful search, they were told of gold discoveries recently made in the vicinity of Lake Abitibi, so on they went. They were greatly impressed with the fine timber encountered in that north country and reported it to their benefactor as opportunity offered. Then followed data on Couchiching Falls and Iroquois Falls. Mr. Anson recognized this as the combination he was looking for and had surveys and cruises made, although there was no railway within a hundred miles of the place.

When the Transcontinental Railway was built and the T. and N. O. extended to meet it at Cochrane, Mr.

ABITIBI POWER & PAPER CO., LTD. IROQUOIS FALLS, QUE

Anson had accumulated sufficient means to make a start on the establishment of a pulp mill. As he began to build and finance his undertaking he found it possible to get sufficient capital to go the whole distance and constructed a well balanced pulp and paper mill on a large scale. The value of the present annual output of this mill is over ten million dollars.

Mr. Anson's own training, experience and habits have enabled him to organize effectively and to pick dependable men for responsible positions. His opinion is that education should fit a person for **a** job rather than for **some** job. This is exactly what "study in work" does as compared with "study in school".

From New Liskeard north to the shores of James Bay, the Temiskaming and Northern Ontario Railway traverses the great clay belt of Northern Ontario and Quebec. This belt contains over twenty-five million acres of potential farms where the able and willing worker can begin with little or no capital, make a home and gain financial independence in a comparatively short time, as many have already done. This belt will eventually be one of the important dairying and stock raising districts of the Dominion. Meadows and pastures in clay remain for years without reseeding. To homestead a bush farm requires little capital and provides work throughout the year—farming and clearing the land in the summer and lumbering and caring for live stock during the winter. It also provides much of the material required for buildings and fences.

Most people think of the country around James Bay in terms of icebound regions in the winter and muskeg in the summer, fit only for breeding grounds of wild fowl such as geese and ducks. This is far from being a true picture. The height of land or the breast-bone of the North American continent lies but a few miles north of Lake Superior, runs directly east to a point a few miles north of New Liskeard and then turns north-east and runs in a course parallel with the St. Lawrence River. From this high ridge where the the temperatures are necessarily extreme, the land with undulating topography slopes down for two hundred miles to the south end of James Bay where, by reason of the lower altitude and the modifying influences of that great inland sea, the temperatures are more moderate and crops less subject to frosts during the early autumn. From reliable accounts cereal and vegetable crops are less likely to damage from frost at Rupert House and Moose Factory than they are at New Liskeard or Cochrane, where thousands of successful farms are already well established.

SMOKY FALLS, MATTAGAMI RIVER

This fine wooded watershed of land which lies like the rim of a saucer two hundred miles wide around the end of James Bay is traversed by a number of mighty rivers, notably the Albany, Moose, Harricanaw, Nottawag, Rupert and Eastmain (the Missinaibi, Mattagami, Abitibi and French are tributaries of the Moose). In two hundred miles these rivers drop from an altitude practically the same as is covered by the Mississippi in twelve hundred miles with the result that the product of erosion is carried to the mouth instead of being deposited en route resulting in floods and shifting courses to the river beds. These rivers have worn their courses to the bottom of the clay so that in places the river bed is from fifty to sixty feet below the surface of the surrounding country, thus making hydro-electric dams easy of construction. It is estimated that there are over two hundred excellent water powers in this area of which only six have already been developed.

With this general outline, let me present a picture of conditions as given to me a few weeks ago by the Ven. Archdeacon Woodall of Porquis Junction, Ont., who has lived with his family for fourteen years at Rupert House. During this time he visited practically all places along the shores of James Bay and made many excursions up the larger rivers for several hundred miles.

Rupert House is suitated at the mouth of the Rupert River about three hundred miles farther north than Montreal and about eight hundred miles farther south than the Hudson Bay entrance to Baffin Straits. The tide at Rupert House averages about four feet. So shallow is the southern end of James Bay that the distance between the water line at low tide and high tide at many places is as much as seven miles. The bottom is clay and so hard that a man may walk anywhere without difficulty as he often has to do when his boat is stranded as the tide is going out. When dikes are thrown up, as they could be at little expense, much of this land will be easily put under cultivation. From the water line to the tree line there are several miles of prairie land where the grass grows luxuriantly. In places this prairie land is as much as twenty-five miles wide. Hay is annually cut in these meadows for the cattle kept at Rupert House. This shoal land in places is formed into islands that are never submerged. In order to save fencing, the young cattle at Rupert House are pastured on one of these islands. They are taken over just before the ice breaks up in the spring, which is generally towards the end of April and brought back after the ice has taken in the fall, which is towards the end of November or the forepart of December. When asked how he could live there for so many years without medical attendance, Archdeacon Woodall replied that it was something they seldom had occasion to think about. They lived well on dairy products, vegetables and fish, led an active life in the open and seldom suffered from physical ills. He was inclined to attribute much of this healthy condition to a regular diet of fish. An excellent quality of fish is easily procured by staking nets when the tide is out and gathering the fish in pail fulls from the nets after the tide has risen and receded.

MILL OF WAYAGAMACK PULP & PAPER CO, THREE RIVERS, QUE.

The picture which Archdeacon Woodall left with me was of a country which eventually would be very similar to the excellent and well tilled agricultural areas lying behind the dikes around the shores of the Zuyder Zee in Holland.

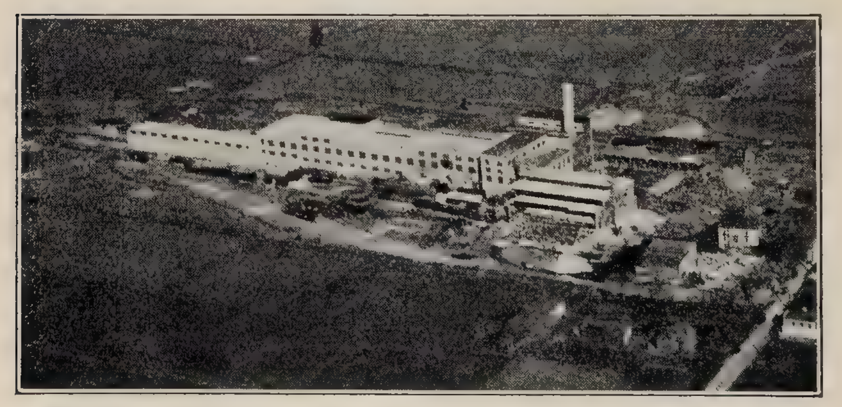
The potential power for industrial development

MILL OF ST. MAURICE PAPER CO., THREE RIVERS, QUE.

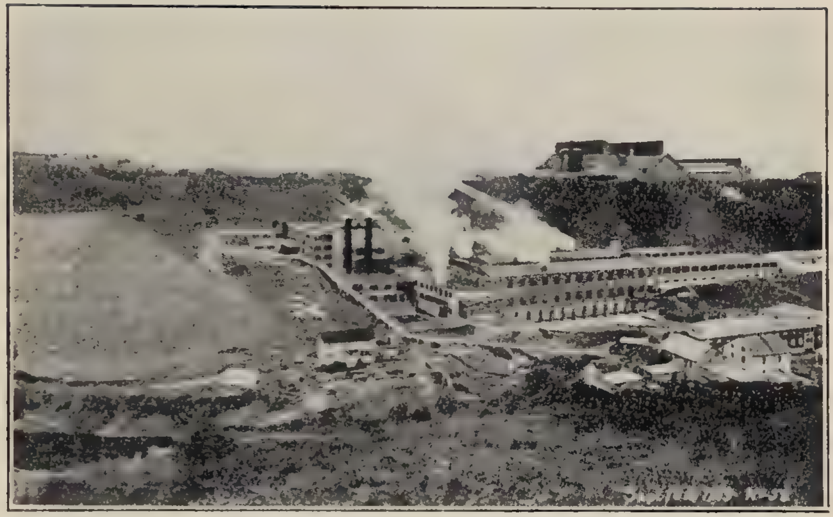
MILL OF INTERNATIONAL PAPER CO. THREE RIVERS, QUE.

which the mighty rivers emptying into James Bay hold for the future can best be realized by a short review of what has taken place during the last few years along the banks of the St. Maurice, a tributary of the St. Lawrence River.

In the city of Three Rivers, which is situated at the



ST. LAWRENCE PAPER MILLS, LTD., THREE RIVERS, QUE.



MILL OF BELGO PAPER CO., LTD. SHAWINIGAN FALLS, QUE.

MILL OF LAURENTIDE CO., LTD., GRAND MERE, QUE.

GOUIN CONSERVATION DAM, AT LALOUTRE, QUE

mouth of the St. Maurice there are four pulp and paper mills with an aggregate daily output of 952 tons of pulp and 615 tons of paper, namely: the St. Maurice Paper Co's., mill with an output of 317 tons pulp and 115 tons paper; The Wayagamack Pulp & Paper Co's mill with an output of 260 tons pulp and 100 tons paper; The International Paper Co's., mill with an output of 235 tons pulp and 240 tons paper; The St. Lawrence Power Co's. mill with an output of 140 tons pulp and 160 tons of paper. A few miles farther up stream at Shawinigan Falls there is the Belgo Paper Co.'s mill with an output of 335 tons of pulp and 285 tons of paper. A few miles farther up at Grand Mere are situated the mills of the Laurentide Company with an output of 500 tons of pulp and 425 tons of paper, and still farther up at La Tuque is the mill of the Brown Corporation with an output of 200 tons of pulp.

If we proceed up the St. Maurice for another forty or fifty miles we come to the great Gouin Conservation Dam which holds back the spring floods and equalizes the flow of water throughout the year. At Three Rivers, Shawinigan Falls and Grand Mere there are many other large industries including two large textile mills, three large foundries, the electric furnaces of the Canada Carbide Company and the reduction works of the Northern Aluminum Company. In addition to providing power for all these industries, some 130,000 h.p., of electric current is transmitted to Montreal, and elsewhere.

At present a new Hydro-Electric Development is being constructed at Grey's Rapids between Shawinigan Falls and Three Rivers which will provide 150,000 h. p., and there are at least two other points where the waters of this comparatively small river will eventually be made to flow through other waterwheels and generate electric energy.

Such a picture as this hurried account has given of the opportunities presented within the limited area of northern Ontario and the St. Maurice Valley in Quebec province could be repeated for several other parts of Canada. If space permitted, it would be interesting, instructive and inspiring to review the life history of the men responsible for the creation and management of each of the industries already established in Northern Ontario, and the St. Maurice Valley, as well as elsewhere throughout the Dominion. But here we cannot do more than review in a general way the opportunities to be found in the principal groups of Canadian industries.

Agricultural Industry

Canada's largest group of industries is that based upon her soil resources, the resources that provide most of the food for the worker and much of the raw material for the factory. "In the long run," says Russel Smith in his Industrial and Commercial Geography, "the only sure dependence of a nation is its soil resource, upon which depends agriculture, the fundamental group of industries and the soundest basis of national growth." This field offers the largest number of opportunities and the surest road to financial independence. The worker in the office or the factory may, and generally does, receive a higher wage for his services, but his food, rent and transportation cost so much more, he has so much greater opportunity for spending and so much more idle time that in the long run he is not so well off as the farmer.

There is no place where a boy can spend his early life—his elementary school days—with so much advantage to himself as on the farm. He gets a wide range of experience and fundamental knowledge. He is early taught to do things for himself. He becomes an early riser and a hard worker. He gets good, healthy, simple food, lots of fresh, pure air, sunlight and exercise. For the bringing up of a family there is no place like the country.

The Provinces of Ontario, Quebec, Manitoba, Saskatchewan, Alberta and British Columbia still have large areas of agricultural land for homesteading on terms within the reach of any able bodied man, so that any man who is not an invalid can't complain of the lack of an opportunity in Canada.

Among Canada's agricultural industries that of animal husbandry is the most important and for many reasons it is the most valuable industry that any country can possess. Its products—milk, butter, cheese, eggs, meats, honey, wool, furs, hides and horses—are the primary requirements of any people irrespective of age or occupation. It is an industry that uses up hay, straw, coarse and unsaleable grains, vegetables and so forth, and utilizes as pasturage untillable and otherwise waste places. Moreover, it provides profitable employment during the winter months. For Canada animal husbandry is very important because it thrives best in temperate climates, and of all countries within either the northern or southern temperate zone none seems to be so well suited to animal husbandry as is Canada.

Practically all of the finest records for milk and butter production are held by cows in the northern States and Canada; and, considering the age of the country and the number of cattle involved, Canada has the lion's share of these records as the following will show:—

Colony Grebegga Valdessa of Colony Farm, Essendale, B. C., on Sept. 8, 1922, broke the world's record for milk production of a two year old heifer with 28,397 lbs. of milk containing 1,094 lbs. of butter fat.

Bella Pontiac, owned by Thomas Baron of Brantford, Ont., holds the world's record for yearly production of butter fat, having produced 27,017 lbs. of milk containing 1,259 lbs. of butter fat.

Dekol Plus Segis Dixie, owned by D. Raymond, Vaudreuil, Que., is third of the world's cows in production of milk and fourth in production of butter with a record of 32,665 lbs. of milk and 1,190 lbs. of butter fat.

Lady Roberts Calantha, owned by J. B. Hanmer, Norwick, Ont., is the senior 3 year old world's champion butter cow with 1,175 lbs. of butter fat.

Other 30,000 lb. cows in Canada are Zarilda Clothilde Dekol with 33,153 lbs. of milk and 955 lbs. of butter fat, Jemima Johanna of Riverside with 30,373 lbs. of milk and 1,024 lbs. of butter fat.

When alongside of these records are placed the many held by Canadians for honey production and the fact the Dominion's national tree—the maple—exudes a sap containing sweets in the form of maple syrup and maple sugar which yield a revenue close to seven and a half million dollars, of which over two millions are exported, one begins to feel that Canada comes close to the ideal that Moses had in mind when he tried to lead his people to the promised land of milk and honey.

Cereal husbandry forms the group of agricultural industries of second importance. In some respects this group takes first place. For instance, the value of the products of cereal husbandry exported during the fiscal year ending with March 31st, 1922, was $237,547,827 for wheat and wheat products and $46,045,446 for all other kinds of grains and their products, whereas the value of animals and animal products exported during the same year was $100,108,478.

In the matter of wheat exports Canada took first place in 1922. Of the crop of that year she exported three hundred and eight million bushels, the country coming next to her was the United States with three hundred and three million bushels.

The northern part of the north temperate zone seems to be well suited to the growing of wheat, oats and barley. In these regions wheat ripens in from eighty-three to ninety days after seeding. The production per acre, without the use of artifical fertilizers, is highest and the quality is the best, grading mostly number one and number two Northern. Canadian wheat is largely used to mix with the softer grades of other countries in order to improve the quality of the flour. In the prairie provinces of northwest Canada, wheat is the initial crop and it is harvested for several years after the land is first put under cultivation. It is the crop that gives the homesteader his start and provides him with with the means whereby stock is purchased and buildings erected.

The third important group of agricultural industries in Canada is fruit growing. This industry is already well established, particularly in the three districts of the Annapolis Valley in Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan Valley of British Columbia. After supplying the home markets, the value of fruit exported from Canada during the fiscal year ending with March 31st, 1922, was $11,581,928.

The total value of farm products exported from Canada during the year ending with March 31st 1922 was just over $400,000,000.

At the **Garden City Press** careful attention is given to all branches of the agricultural industry.

With Macdonald Agricultural College and its Experimental Farm on one side and the Agricultural College and Experimental Farm of the Trappists Freres at Oka, on the other, the location is one of the best for keeping in touch with the latest developments in both the experimental and educational work in agriculture.

The successful farmer to-day, and much more so the farmer of the future, is he who provides himself with a good general education adapted to his business and then keeps himself abreast of his time. To do this he requires to keep in touch with some live and progressive central source of information, direction and literature such as the Garden City Press provides.

The medium of contact is "The Farmers' Guide," Canada's youngest agricultural journal, which is published every other week or twenty-six times a year for the subscription price of $1.00 a year. This journal should be in every farm home.

The reading of a good farm paper is essential, but study should not stop there. Immediately the boy on the farm leaves school, or even before that time, he should be encouraged to take up home study courses beginning with some branch of animal husbandry, cereal husbandry, horticulture or farm mechanics. The girl should be encouraged to take up home study courses in some branch of woman's work and might well begin with dressmaking, millinery or cooking and from this proceed through courses in household management and domestic science. The girl who is interested in outdoor farm work may well begin a successful career by studying the regular agricultural subject, starting with such as poultry raising, bee keeping or small fruits.

At the **Garden City Press** these courses are under the direction of Lt. Col. G. G. Archibald and Miss Katharine A. Fisher, both of whom have had a practical experience in the subjects they handle as well as in teaching. In addition to their own staff they have the advantage of the assistance of and collaboration with the faculties of the two neighbouring agricultural colleges.

The Commercial Fisheries

Fishing is one of the oldest and most romantic industries, as well as one in which Canada possesses extensive resources, yet the average Canadian boy or girl has little knowledge concerning it—so little that not one in a hundred could tell the difference between a halibut and a haddock, two fishes that contribute annually about five million dollars to Canada's national wealth. These two fishes are as different in shape, size and habits as two fishes can be.

The halibut is the largest of all flat fishes, growing to a length of 10 feet or more; specimens of 5 feet in length and of 100 lbs. in weight are frequently seen on the market. They live only in the cold water of the north and at depths of from 50 to 150 fathoms. In shape, they resemble the sun fish, but unlike this species, which swims upright, the halibut swims in a horizontal position, with the side which is a dark brown always turned towards the sun and the other side towards the bottom or dark depths of the ocean, which seldom sees the rays of the sun, and is almost white, like a plant that grows in the cellar. The eye that is turned downward has lost its usefulness while the one on the upper side is over-developed and prominent.

The haddock belongs to the cod family. It seldom exceeds 10 lbs. in weight, and is long and round like the cod. It also frequents the cold waters of the north, but not at the depths at which the halibut lives. It is the fish from which the excellent ''finnan haddie'' is made, so called because it was first cured in this way in Findon, a small town in Scotland. Both the halibut and the haddock are excellent food fishes.

The life history of Canada's food fishes is one of a series of study lessons, which is in course of preparation at the Garden City Press. Every boy and girl should know something of their country's food fishes, as well as acquire a knowledge of the industrial geography of the fishing industry.

Together with agriculture the Commercial Fisheries provide the only source of food supply. These two industries are therefore the most essential to any people.

Next to milk and eggs, fish is probably the best, most digestible and cheapest food, and the thoughful, intelligent housewife who concerns herself with the serving of a diet that best builds and repairs the tissues of the body and brain, and thereby conserves, health, never neglects a goodly supply of fish.

Another value of the Commercial Fisheries lies in the fact that they provide the natural and best training ground for seamen. It is not a mere coincidence, but rather cause and effect, that Great Britain is situated in the midst of the world's greatest deep sea fishing grounds and at the same time holds first place as a maritime power, and that Japan, which is situated in another important deep sea fishing ground, should also be an important maritime power.

In the matter of deep sea fishing grounds, Canada is well situated. It is a fact, not generally recognized, that all the important deep sea fishing grounds of the world are situated in the Northern Hemisphere. The valuable food fishes of the ocean seemingly inhabit only the shallow places of cool seas and all the continents of the Southern Hemisphere end too abruptly and have coasts that are too precipitous to allow of any extensive off-shore shoals. Moreover, none of the continents extend far enough into the Antarctic to secure the low temperatures that are required by the better class of food fishes. The warm tropical and subtropical oceans abound with fishes, but not of the varieties which the markets of the world demand. The fish of the warm seas are used mostly for the manufacture of fertilizer either by reduction works, such as are to be found in large numbers off the coast of the Southern Atlantic States, or as food for fish-eating birds, such as abound along the northwest coast of South America, and are protected on account of their value as guano producers. The markets of the world must, therefore, look for their supplies of food fishes to the countries of the Northern Hemisphere, and to only such of these as lie in close proximity to the shallow places of cool seas, or what are generally known as fishing banks. Such places are only four in number, namely, the eastern and western shores of the North Atlantic and the eastern and western shores of the North Pacific.

The most important of these four fishing grounds, from the point of development and production, and the second in importance from the point of area, are the shoals of the Northeast Atlantic, lying off the coasts of Great Britain, Ireland, Norway, Sweden, Russia, Germany, Denmark, Holland, Belgium and France. Great quantities of fish have been taken from these waters continuously by the people of Northwestern Europe, since the earliest times of which there is any record.

The fishing grounds of second importance as regards development and production, but least of the four as regards area, are those lying off the coasts of Japan and China. These waters have been fished for fully four thousand years and are still producing very considerable quantities of fish.

The grounds third in importance as regards production and development, but first as regards extent of area, are those lying off the shores of Eastern Canada and Newfoundland. They comprise the Grand Banks, which alone cover an area as large as that of Great Britain. These banks are the largest deep sea fishing shoals in the world. Lying just where the cold Labrador current rounds the southeast corner of Newfoundland, these cool shallow waters, with their abundance of food organisms, that have been brought down from the northern seas, form the greatest cod fishing banks of the world. These grounds include also the Gulf of St. Lawrence and the Bay of Fundy, as well as the shoals off the coast of New Brunswick, Nova Scotia, Newfoundland and Labrador. Off these shores the greatest known quantity of lobster is to be found. Practically every other popular salt water fish may also be had there.

Salmon, in one or more varieties, are found on all four grounds, but nowhere are they caught so plentifully as in the rivers emptying into the north west Pacific waters. Of the total value of production from these waters, the salmon accounts for fully three-quarters. The next most important fish on these grounds in point of value of production, is the halibut.

It is, therefore, a fact not generally appreciated by the average Canadian, that his country possesses the unique geographical advantage of being located in the closest proximity to two out of the four great deep sea fishing grounds of the world, and these the first and third in importance as regards extent of area. On these two grounds are to be found practically all of the most important varieties of food fishes, and many of them, such as the herring, the cod, haddock, salmon, halibut and the lobster, in quantities unsurpassed by either of the other two grounds.

There is another fact that is not generally appreciated by the people of this country, namely, that the area of Canada's fresh water fisheries,—220,000 square miles—is several times greater than the fresh water fisheries of any other country. These are scattered in the form of lakes and rivers pretty regularly across the Dominion, but the majority of them lie well in the centre, including the Great Lakes and Lakes Nipissing, Nipigon, Manitoba and Lesser Slave.

A third fact not generally appreciated is that, situated in practically the centre of Canada lies one of the largest inland bodies of salt water to be found anywhere on the Globe. Hudson Bay is 590 miles wide and 1.300 miles from the north end to the south end of James Bay. Its waters are shallow and cool. Mr. J. B. Tyrrell, the explorer and author, who spent a year and a half on the shore of the Hudson Bay, and who has made a study of the navigation and development of this body of water a part of his life work, writes in 1908 as follows:—

> ''Little definite information seems to be available regarding the varieties and abundance of fish in Hudson Bay, but certain it is that some of the finest fish I have ever seen or eaten have come from these waters.
>
> ''Salmon of the very finest quality are found in abundance. Lake trout are found in all the streams and lakes tributary to it. Sturgeon are plentiful in the Nelson and other rivers flowing into it. Whitefish are caught at the mouth of every river. Cod have been found at a number of points, and doubtless other varieties of deep sea fish will be found when properly fished for.''

One of the best evidences that fish are there in quantity lies in the presence of such a large number of fish-eating mammals. The white whale, the sea unicorn, the walrus, the bearded seal, the harp seal, the ringed seal, the harbor seal and the polar bear are all found there in great numbers. Speaking of white seal, Mr. Tyrrell says that he has seen "the surface of the bay appear as a living, plunging mass of white from the presence of great schools of these creatures, nor do they appear to be appreciably diminishing, as some animals are. I observed them in apparently as great numbers in 1905 as I had in the same locality twenty years before, although large numbers of them are annually captured by the Hudson's Bay Company".

The value of fish and fish products exported from Canada in the fiscal year ending with the 31st of March 1922 was $29,380,947.

The value of the annual catch of fish in Canada is in the neighbourhood of fifty million dollars which could easily be considerably increased: (1) if the Canadian consuming public gave more attention to the food value of fish; (2) if those in the industry studied more carefully the requirements of foreign markets; and (3) gave more attention and study to the methods of curing and packing their fish.

Through the columns of the "**Canadian Fisherman**" — a journal published monthly at the Garden City Press, — an effort is constantly being made to improve matters along each of these lines. There is also in course of preparation at the Garden City Press, a series of studies for those in the industry that will be put out under the auspices of the Canadian Fisheries Association, This association, which is composed of the progressive men of the industry, from the Atlantic to the Pacific, has done much to improve the conditions of the producer and widen the market for his products. A free copy of an up-to-date manual in either English or French on methods of cooking and serving fish may be had on request to the Canadian Fisheries Association, Garden City Press, Gardenvale, Quebec.

Complete data on the Commercial and Industrial Geography of the fishing industry together with the names and addresses of the principal producers will be given in the Canadian Directory of Industry, Commerce and Finance.

The Mining Industry

If the average boy was asked to name in order of their importance the first six mining camps of Canada, it is doubtful if he could do it. Yet the information that would enable him to do this would give him the best idea of the opportunities in mining and where to find them. In studying the history of each camp he would learn something of the great wealth many young men have gained in a comparatively short time by the discovery and development of mineral deposits, as well as become acquainted with the manner in which they prepared themselves for this work. Information such as this is given in the short biographical sketch of Mr. N. A. Timmins, which appears in the forepart of this chapter or of Mr. Alex Longwell, which appears in the chapter on who is who at the Garden City Press.

The great variety and wealth of the mineral deposits already discovered in the comparatively small area covered by the prospector is a fair and reliable indication of what we may expect will be found in the vast unexplored areas of the country. Every boy and young man has an equal chance in this work, if he will only prepare himself for it by giving some time to the study of the subject. In order to be a successful prospector one does not require to have the education of a mining engineer or geologist. All he requires is a knowledge of the different minerals, how they occur, and the mineral bearing geological areas, all of which he can learn in a comparatively short time. This class of information has been given for years by Dr. W. L. Goodwin in his teaching at the School of Mines, Kingston, Ont., when he was head of that institution, and in the itinerant lectures given by himself and his assistants, such as is mentioned in the biographical sketch of Mr. Timmins earlier in this chapter.

For the last three years Dr. Goodwin has been giving much of his time to this work under the auspices of the Bureau of Mines, Toronto. The remainder of his time has been taken up preparing a course of studies for prospectors that will be put out from the Garden City Press by the Institute of Industrial and Domestic Arts.

The principal mining camps, or districts, of Canada in the order of their importance as regards employment and output are as follows:—

1st Sydney, Nova Scotia, where about 5,000,000 tons of bituminous coal valued at about $25,000,000 is mined annually. About 500,000 tons of steel rails, rods and other shapes valued at approximately $10,000,000 are smelted and rolled from about 1,000,000 tons of iron ore mined at Bell Island, Newfoundland. The limestone used for fluxing in the furnaces is partly mined in the vicinity of Sydney, but the bulk of it comes from Newfoundland, The business of distilling the bi-products such as sulphate of ammonia, tars, benzol and other light oils etc., from the liquors collected in the ovens where the coal is converted into coke for the blast furnaces also adds to the industry of the district. The total value of the output from this camp is in the neighbourhood of $40,000,000 annually.

2nd The coal district of southwest Alberta, including the mines of the Crow's Nest Coal Co., Ltd., just over the boundary in British Columbia, where about 5,000,000 tons of coal valued at $25,000,000 is mined annually.

3rd Porcupine, Ontario, where about $20,000,000 of gold is produced annually.

4th Cobalt, Ontario, where about $9,000,000 of silver, cobalt and arsenic is produced annually.

5th Sudbury, Ontario, where about $7,500,000 of nickel and copper is produced annually.

6th The Boundary District of British Columbia, where about $7,000,000 of zinc, lead, copper and silver is produced annually.

7th The Asbestos District of Quebec including Thetford Mines, Black Lake and Asbestos, where about $6,000,000 of Asbestos is produced annually.

There are several districts with an output valued in the neighbourhood of $5,000,000, annually.

The position which Canada holds among the countries of the World as a source of mine products is exceptional.

In Nickel, Asbestos and Cobalt, Canada controls the markets of the world. Her mines produce from 80 per cent to 90 per cent of the worlds' requirements of these materials.

She is the second largest producer of Arsenic, Feldspar, Gypsum and Mica.

She is the third largest producer of Gold, Silver and Talc.

She is the fifth largest producer of Pyrites, Graphite and Aluminium.

She is sixth among the producers of Copper and of Pig-Iron and Steel.

As a producer of coal Canada stands ninth. But in point of the world's coal resources Canada is second.

According to the preliminary report of the Dominion Bureau of Statistics the mineral production in Canada for the year ending December 31st 1922 was as follows:

	Value $
Metallic	
Cobalt, metallic and contained in oxide	1,442,272
Copper	5,797,270
Gold	25,446,717
Iron, pig, from Canadian ore,	382,000

Iron ore sold for export	9,253
Lead	6,789,690
Nickel	6,123,771
Palladium	16,555
Platinum	13,471
Rhodium, Osmium, Iridium, Ruthenium	8,750
Silver	11,891,560
Zinc	3,223,681
Total value Metallics	61,144,990

Non-Metallic

Actinolite	345
Arsenic, white, and in ore	321,037
Asbestos	4,664,106
Barytes	9,537
Chromite	19,566
Coal	66,486,025
Feldspar	227,625
Fluorspar	102,138
Graphite	35,624
Grindstones	62,000
Gypsum	2,043,145
Magnesite	74,763
Magnesium sulphate	34,900
Manganese	2,044
Mica	129,281
Mineral water	24,819
Natro-Alunite	2,500
Natural gas	5,468,963
Iron oxides	95,857
Peat,	14,500
Petroleum, crude	609,679
Phosphate	1,060
Pyrites	80,208
Quartz	213,913
Salt	1,646,666
Sodium carbonate	12,600
Sodium Sulphate	8,460
Talc	185,197
Tripolite	5,781
Total value Non-Metallic	82,582,339

Structural Materials and Clay Products

Cement, Portland and Puzzolan	15,438,467
Clay products:—	
Bricks, common	4,940,902
Bricks, pressed	1,391,355
Bricks, hollow building	309,543
Bricks, moulded and ornamental	564,843
Fire brick	251,775
Fire clay	50,408
Fire clay blocks	68,774
Fireproofing and hollow porous blocks	270,268
Paving brick	5,972
Pottery from domestic clay	248,391
Sewer pipe	1,767,054
Architectural terra-cotta	148,029
Tile, drain	436,551
Lime	3,178,115
Sand and gravel	2,624,324
Stone	7,607,495
Total value of structural and clay products	39,302,266
Grand total	183,029,595

It will be noticed that the pig-iron and steel smelted and rolled from imported iron ore are not included in the above table of production and likewise the aluminium extracted from imported bauxite by the cheap hydro-electric powers of this country is not included. When these two items are taken into account the value of mineral production of Canada is well over $200,000,000.

Mineral Production in Canada by provinces for the year 1922 was as follows:

Ontario	$65,370.366
British Columbia	39,166.614
Nova Scotia	28,804.474
Alberta	25,717,572

Quebec	16,799,688
New Brunswick	2,414,152
Manitoba	2,118,529
Yukon	1,810,555
Saskatchewan	827,645
Total	183;029,595

The value of exports of mine products other than bullion for the year ending with March 31st 1922 was $59,773,704.

In the early eighties, when the value of the mineral production of the Dominion was little more than five million dollars, the first Canadian mining publication made its appearance under the title of "The Canadian Mining Review." It struggled along against the keen competition of the well established weekly mining journals of the United States and Great Britain until 1907, when it was about to be absorbed by an American contemporary. The prospect of the Canadian mining industry being without a publication controlled by Canadians aroused considerable interest.

The matter was brought to the attention of the writer by Dr. W. G. Miller, chief geologist for the Province of Ontario. In the purchase of the Canadian Mining Review the writer and Mr. Alexander Longwell who had joined him in the venture were supported by the late Dr. James Douglas, afterwards Chancellor of Queen's University, the late Mr. J. C. Gwillim at that time Professor of Mining at the School of Mines, Queen's University, Mr. S. F. Kirkpatrick now of M. J. O'Brien Ltd., Ottawa, but at that time Professor of Metallurgy at the School of Mines, Dr. Milton L. Hersey, Montreal, Que., Mr. J. B. Tyrell, Toronto, Ont. and Mr. Eugene Coste, Calgary, Alberta, each of whom provided a part of the purchase price.

By this transaction the corner stone of the business that has grown up around the Garden City Press was laid, although little progress was made in the direction of the final form it was to take until the spring of 1911, and the name by which it is known was not given to it until the summer of 1918. Seldom is an institution conceived with so patriotic a motive or sponsored by so representative a group of worthy citizens as the eight whose names are mentioned above.

If space would permit an account of the part that each of these men has played in the development of the mining resources of the North American Continent would provide a story fraught with much inspiration and guidance for the boys of today.

When the Canadian Mining Review was purchased the name was changed to The Canadian Mining Journal. Since the beginning of 1919 it has been published weekly at the Garden City Press.

The Pulp And Paper Industry

The value of the exports of pulp and paper from Canada during the year ending with the 31st. of March, 1922, was $105,458,295. The value of the exports of all other products of the forests, including pulp wood, timber, lumber and so forth was $74,460,592. At present Canada provides about one-quarter of the world's requirements of newsprint, and the new mills and extensions are rapidly improving her present position. With the exception of sulphur, the raw materials required are almost entirely of domestic origin.

This great industry, which employs more than thirty thousand people in its mills and as many more in woods operations, depends primarily on wood and water power. Nowhere in the world are these two essential requirements so abundantly and conveniently provided by nature as in Canada. All of the Provinces have standing timber, but the principal pulp wood areas already developed are in British Columbia, Ontario, Quebec, New Brunswick and Nova Scotia. Important reserves are also to be found in Alberta and Northern Saskatchewan and Manitoba, and in the vast but largely unexplored district of Ungava.

The fibre of Canadian wood is of the very finest quality for paper making, and the predominance of the evergreen in the forest simplifies logging operations because of the greater economy of bringing out practically all the wood big enough to cut. Transportation of this wood is cheap because it can be floated to the mill, sometimes 300 miles from where it grows.

Some mills make only pulp while others turn out the finished paper. In either case a large amount of power is required, especially in making mechanical pulp (groundwood) as the production of one ton of pulp in twenty-four hours uses some fifty-five to seventy-five horse-power. In a large mill making several hundred tons of groundwood, and with conveyors, pumps, barkers, paper machines and so forth, the consumption of power is enormous. A glance at the map will show how fortunately Canada is situated with regard to the occurence of most woods and water powers convenient to each other. In this way the water that brings the wood to the mill also provides power to run the machines. Most of Canada's rivers flow through heavily wooded areas.

There are over one hundred pulp and paper mills in Canada, many of them larger than the average in other countries. These are found in groups centering on some important requirement as power, wood, markets and so forth. The most important concentration points are: the head of the Saguenay River and the St. Maurice Valley in the Province of Quebec, the Coast of British Columbia, and the Niagara District in the Province of Ontario. Many of the pulp and paper companies also operate saw-mills so that the best logs can be made into lumber if the market for that commodity makes it worth while. In fact the lumber industry is one of the very important outlets for Canadian enterprise. There are valuable stands of pine and structural timber besides such hardwoods as birch, maple and beach for furniture, interior finishings and so forth. A considerable business is also carried on in the distillation of wood for alcohol, charcoal, oil, tar and other chemicals.

There are two general classes of pulp — mechanical, and chemical. In either case the wood is cut into twenty-four inch, thirty-two inch or forty-eight inch blocks. In making mechanical pulp, or what is generally known as groundwood, the blocks are pressed against a big grindstone and the fibres ground off. A cord of wood produces practically a ton of mechanical pulp. This is purely a mechanical process, though a knowledge of hydraulics and physics and an acquaintance with chemistry is of great assistance to successful operation and efficient control.

The two processes used in Canada for the making of chemical pulp are the sulphite process and the sulphate process.

The sulphite process gets its name from the fact that the solution used for cooking the wood is bi-sulphite of lime. This is made by burning sulphur and passing the fumes into a tank of lime water or a tower full of limestone over which water is trickling. The solution or cooking liquor contains an excess of the gas and is distinctly acid. This requires that the pipes or fittings be of bronze or lead with tanks of wood or concrete and that the digester be lined with an acid-proof brick or cement. The digester, an upright cylinder with a conical bottom and conical or dome top, is filled with chips of wood and sufficient cooking liquor, the top is bolted on and steam turned in until a pressure of about eighty pounds per square inch is reached. The higher the pressure and stronger the liquor the more rapid is the cooking, but this action may become too strong and destroy some of the fibre. Accurate control based on scientific knowledge and experience is necessary to get the best yield of good pulp. As a rule it takes from 1.7 to 2.2 cords of wood to produce a ton of chemical pulp. The cooking is varied according to the quality desired and the product is bleached for high grade paper.

The sulphate process involves the use of sodium sulphate in the preparation of the cooking liquor. Sulphate pulp is generally known as "kraft". Highly resinous woods that cannot be cooked by the sulphite process are successfully pulped by the sulphate process.

The soda process is very similar to the sulphate process. Soda pulp is whiter and more easily bleached. Hardwood—poplar, birch and so forth—is used, and the product is short fibred and relatively soft and bulky, making it especially suitable for making high grade printing papers.

There are no soda pulp mills operated in Canada today, although there are large quantities of suitable wood, much of which is exported at the present time.

A great variety of papers are produced by various combinations of these pulps. Besides pulp Canadian mills use waste material from some other industries — rags, burlap, waste paper and so forth. The paper industry is highly efficient as a converter of waste into a valuable commodity, the price of the product running from $50 to $1,500 per ton. The following table will show the principal grades of paper made in Canada from the different kinds of pulp and other materials:—

Materials	Kind of Paper
Groundwood	Chip board — wall board
Groundwood and sulphite mixed	News print — Wall paper — Boxboard — Bag paper — Cheap Book and Writings — Tissues and Toilets — Wrappings — Building papers.

Sulphite — unbleached	High grade Board — Manila and Bag papers — Medium grade Tissue, Towels, and Toilet papers.
Sulphite — bleached	Medium grade Writings — Bonds, Ledgers and Bristols — High grade Wrapping, Bag, Tissue and Towels — High grade Printings (with Soda Pulp & China Clay) Also for Artificial Silk.
Sulphate Pulp	Kraft, Wrapping and Bag Papers — Shipping containers — Cover papers.
Old Papers	Paste boards
Sulphite and Old Papers	Medium grade Book and Writing papers — Envelopes, etc.
Rags (usually with some bleached Sulphite)	Bond and Ledgers — Papers Index Bristol — Blotting Papers (with Soda Pulp) — Tissue
Old Cheap Rags	Saturating felt (for tar paper) — Carpet felt.
Straw	Very cheap wrapping — Egg case boards — Corrugated paper and board.
Rope and Burlap	Very strong Manila and Jute wrapping — Cartridge papers — Vulcanized fibre — Suitcase and trunk board.

This is but a partial list of the products of Canadian pulp and paper mills, but will serve to show the diversity of output and the importance of the industry. The growth has been remarkable, especially in the manufacture of newsprint, of which Canada is now producing well over 1,100,000 tons a year and exporting practically 1,000,000 tons.

The importance of trained brains in the management of the industry has always been recognized, but it is significant to note that the number of technically trained men connected principally with operation and control of manufacturing has increased from two or three in 1910 to more than two hundred to-day. The need of technically trained men in the woods has also become recognized, and the man who stands in the way of progress or fails to improve his knowledge of the principles and technique of the industry, either as to its technology or management, will either be stepped on or pushed out. There is no industry in the Dominion that is making such rapid strides towards truly efficient operation. The life of the industry depends upon it and the future is bright indeed for the person who is willing to study and work.

Those wishing to know more of this industry and its product and to keep in touch with it can do so in no better way than by becoming a regular reader of the Pulp and Paper Magazine, which is published weekly at the Garden City Press, Gardenvale, Que., under the Editorship of Mr. J. N. Stephenson; and those wishing to prepare themselves to take advantage of the many opportunities this industry offers for profitable life work should register for the course of study in the manufacture of pulp and paper conducted by the Institute of Industrial & Domestic Arts, Garden City Press, Gardenvale, Que.

A complete account of the Industrial and Commercial

Geography of the Industry together with the sources of supplies of all grades and qualities of Pulp and Paper will be given in the Canadian Directory of Industry, Commerce and Finance now in course of preparation at the Garden City Press.

Water Power

In the third volume of "The Outline of Science" by J. Arthur Thompson, Professor of Natural History in the University of Aberdeen, published in 1922, the following paragraph appears.

> "The world's total potential water-power has been calculated at 200 million h.p. Estimates must he accepted with reserve as the surveys have necessarily been very incomplete in the almost unexplored regions where ultimately some of the greatest developments may be expected. So far only 25,000,000 h.p. of this energy has been turned to account. Even at this stage, however, the economies resulting from harnessing water-power are apparent. In the best steam plant of large size 9 tons of coal must be burned to give one horse-power continuously for a year. Therefore 225,000,000 tons of coal, or approximately the whole output of our coal-mines per annum, represent the amount that would have to be fed to boilers to produce the energy of water already doing service. The world's total water-power would on this basis exceed that obtainable from the world's coal output in 1913!
>
> "It may be that the development of water-power will in the future affect the centre of gravity of the world's industries, for these tend to move towards cheap power."

Canada's total potential water-power is estimated at ever 32,000,000 h. p. Of this 2,973,759 (1922 figures) has already been developed, which is 80 per cent. of the total developed water-power in the British Empire. Per capita it is 335 per cent. greater than the per capita developed water-power of the United States.

The potential horse-power given above includes only those falls that have come under the observation of the provincial and federal authorities. Additional power sites are known to exist in the outlying regions but to date they have not been observed and measured. The above figure also does not take into account the increased production that will result from the construction of storage dams such as that built at the head of the St. Maurice River, or from the diverting of streams to points on the river bank where the fall is materially increased; such as has been done by the Hydro-Electric Power Commission of Ontario at Chippawa, Niagara District. (On the Canadian side of the Niagara Falls "within a space of a few square miles, are to be found more generating stations operated by water than in any other equal area of the earth's surface").* At the falls the waters of the Niagara have a sheer drop of 159 ft., and through the rapids above and below the famous whirlpool they descend another 165 ft. in a distance of a few miles after leaving the falls. The Hydro-Electric Commission of Ontario has built a great canal 12½ miles long, which takes the water at the higher level, carries it through a level stretch of country and empties it into the Niagara Gorge at a point where it has a fall of 300 feet, thus almost doubling the power that would be developed at the Niagara Falls by the same quantity of water. If such engineering feats as this, together with conservation dams, are taken into consideration, it is estimated that the potential water-power of Canada is 47 million horse-power or about twice the world's developed hydro-electric h.p. of today.

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* Prof. J. Arthur Thompson in "The Outline of Science" 1922.

During the fifteen months elapsed since January 1st 1922, an aggregate exceeding one million horse-power in new development has been launched or is under way. When these projects are completed the developed water-power will be increased by 35 per cent. This development is indicative of the rapid expansion of Canadian industry and of the increased disposition of her people to use electricity for lighting, cooking and power purposes in their homes.

If the rapidity and degree with which electricity has interwoven itself with the economic and social life of the Dominion may be taken as a token, neither unusual vision nor undue optimism is required to foresee the great future which the water-powers of Canada hold for her people.

One of the very satisfactory features of water-power is that once developed and kept in repair, it goes on for ever. The coal mine may become exhausted and the gas and oil well run dry, but the river runs on for ever.

The study of electricity should therefore not be neglected by any Canadian. A knowledge of it is necessary to the man in industry and to the housewife in the home.

At the Garden City Press the first complete and up-to-date Electrical Directory published in Canada is on the press and will be ready for distribution about April 1st, 1923. Immediately thereafter the first issue of a monthly electrical journal will appear under the title "Electrical Power in Canada".

In practically every course of study put out by the Institute of Industrial and Domestic Arts, the subject of electricity is included.

In the Canadian Directory of Industry, Commerce and Finance the Industrial and Commercial Geography of Water Powers and Electricity will be fully dealt with.

The Textile Industry

Few, if any, industries require such artistic taste, mechanical skill and scientific knowledge as does the designing, manufacturing and finishing of textile fabrics. There are fully fifty thousand people in Canada engaged in the textile industry, and yet there is not a school or course of study in the country designed to meet the needs of this industry. The question naturally arises, how does the industry exist and grow as it has under such conditions? The Canadian textile industry is not without skilled help. Most of the superintendents and many of the overseers are either graduates of the textile schools in other countries, or have received their training in the mills of Great Britain and the United States. The rank and file of Canadian textile workers are machine tenders with little education in their business who have learned the operation of feeding through machines the materials from which yarns and fabrics are made. Such a condition may satisfy the requirements of a fair return upon the capital invested, but it does not make for a healthy industrial condition, nor does it make for the class of citizens the country should aim to produce. It is not fair to the worker, who has the potential power and ambition, which most Canadians have, to rise to the top of his profession.

The responsibility for this condition must not be charged to the textile industry because there is no Canadian industry that has done more in the way of defraying the expenses of worthy employees during their courses at the textile schools of other countries than this industry has. At the present time there are several Canadian mills helping one or more of their best boys through courses at these schools. This is no small matter, since the fee alone for a course in any of the recognized schools of the United States exceeds $1,000. The cost of equipping and maintaining a textile school is considerable.

Neither should the responsibility be charged to the educational authorities of the Provinces, because on more than one occasion they have shown a readiness to create facilities, providing a sufficient number of students could be guaranteed. But Canada is a large country and the industry is scattered. In places like Lowell, Fall River, New Bedford and Philadelphia, in the United States, the textile schools are situated in the midst of large textile communities, and the number of students graduating from the night classes provide the greater portion of those who take the advanced courses in the day schools.

The responsibility for the lack of textile educational facilities in Canada should be credited to the mistaken impression that the only place where a textile education can be had is in the class room of a textile school. The student in the textile school studies from books and lectures and observes the principles he has learned in the operation of textile machinery; and there is nothing to prevent him from getting the same, or even a more practical and more useful knowledge, from the same books and study lessons which he could take by correspondence, and at the same time observe the principles he has studied in the operation of the machines he is working with in the mill. The machinery in the mill is generally of a more up-to-date type and is operated along more practical lines than the machinery used for demonstration purposes in a textile school. All that is needed is the necessary determination on the part of the worker to spend a portion of his evenings in study. In this way he saves the expense of a course in a school, and continues to earn wages.

Even in the State of Massachusetts, where there are three textile schools, there are more workers studying by correspondence courses than there are attending classes in the schools. But this development has all taken place in the last few years. Previous to six months ago it was considered impossible to study pulp and paper making by correspondence. But to-day there are over fifty student workers taking courses in this way in the Spanish River Pulp and Paper Mills alone.

There are twenty-eight in the Mill of the Abitibi Power & Paper Company. There are twenty in the Belgo Paper Company, and so forth.

During the last six months the educationalists and text-book-makers of the Garden City Press, who, in collaboration with experts in the pulp and paper industry, are responsible for the correspondence courses in the pulp and paper industry, have been working with textile experts to prepare similar courses of study for textile workers. These courses will be offered to the workers in that industry by the Institute of Industrial and Domestic Arts under the auspices of the Canadian Textile Institute.

The manufacturing of textiles forms one of the oldest industries in Canada. It is a basic and essential industry because, next to food, clothing is the primary requirement of the people, and no self-respecting people can afford to be dependent upon foreign countries to fill a primary need. Moreover it is one of the industries providing employment for the urban female worker. If it were not for the textile and clothing industries the industrial opportunities of the woman worker would be very limited. With her abundance of hydro-electric power and other natural facilities Canada can ill afford to neglect her textile industry.

Heretofore, the textile industry in Canada has been maintained largely by means of a protected tariff. If this were lowered, textile manufacturing in Canada could not continue in competition with the mills of Great Britain and the United States. The industry in both these countries has been kept up to a high state of efficiency by reason of the attention that has been given to textile education and training.

Nearly every branch of the textile industry is found in Canada in one or more mills. The principal lines are manufactured in mills as follows,—

Woollens and Worsteds are made in	134 mills
Knitted goods are made in	159 mills
Carpets and Rugs are made in	14 mills
..Paper Mill Felts are made in	6 mills
Cotton Yarns and Fabrics are made in	53 mills
Cotton and Linen Threads are made in	7 mills
Silk Thread & Fabrics are made in	17 mills
Maroon Fabrics are made in	14 mills
Jute & Linen Yarns & Fabrics are made in	8 mills
Cordage is made in	11 mills
Finishing and Dyeing is done in	13 mills

There are companies making plush and velours, hair cloth, oilcloth and linoleum, buckram, window shades, embroidery, absorbent cotton and surgeons' dressings, silk, cotton and wool gloves, shoe and corset laces, trimmings, fringes, cords, tassels, jute and cotton bags. There are several commission wool scouring and carbonizing companies. The shoddy business is well taken of. There is a considerable number of concerns producing bedding, mattresses, quilts and upholstery padding. The scutching of flax is done in thirty odd plants in Western Ontario and the wool combing industry is represented by a modern plant just getting into action at Trenton, Ontario.

The Knitting industry is the most widespread and fastly growing of any of the textile trades in Canada.

Cotton yarns and fabrics are represented by a few very large native companies and several smaller ones as well as by branch factories of American firms.

Many of the woollen manufacturers are small country mills, using locally grown wool, and producing the simplest of products. The larger ones are financed and equipped in a manner not to be excelled. They use the world's finest raw materials and produce goods of first quality. The spinning of worsted yarns on the Bradford system from imported tops is a very large industry. There are three plants producing fine knitting yarns from imported tops on the French system.

The condition of an industry, its strength and character, are generally reflected in the specialized press that serves it, and the opinion which outsiders have of it, as well as the opinion which the industry has of itself, is invariably gained from this source. In this respect the pulp and paper and textile industries of Canada are well to the front. The Pulp and Paper Magazine and the Canadian Textile Journal, both of which are published at the Garden City Press, take their place alongside of the best that are published anywhere, either in appearance, size or character of service rendered. Those wishing to keep informed concerning this industry should subscribe for the Canadian Textile Journal and those wishing to prepare for a lifework in the industry should take the course of study in textile manufacturing put out by the Institute of Industrial and Domestic Arts, Garden City Press, Gardenvale, Que.

The Iron And Steel Industry

Next to Agriculture, the largest industry in Canada is that engaged in working up iron and steel into the machinery, tools and other equipment required by every industry and in keeping them in repair. This industry comprehends a great variety, from the large steel rail and rod rolling mill which draws and shapes the ingots from the steel furnace to the blacksmith shop in the country village. It also includes all machine shops, foundries, electrical, automobile and boiler manufacturing establishments, as well as those that have to do with plumbing, steamfitting and tinsmithing. Of all industries it is the most universal, and no boy can afford to neglect acquiring some knowledge concerning it. No matter what industry he goes into he will find a knowledge of this valuable. The present, more than any other period of the world's history, is the age of machinery, and it is becoming more so day by day.

A boy cannot take proper care of the machine he is working with and get the most out of it unless he knows something about mechanics. Such knowledge is advisable for the sake of his own production, and absolutely necessary if he aspires to the position of foreman or superintendent. For this reason a term in a machine shop as an apprentice makes a valuable stepping stone into any industry. Such an experience gives him a practical knowledge of the use of the hammer, the file, the cold chisel, the pipe die, etc, as well as an idea of the action of iron and steel when heated, drawn, welded, poured, tooled or tempered. Such an experience becomes of the greatest value if at the same time, or before, he takes a course of study in machine shop practice, and general mechanics, as well as learns something of foundry practice and the heat treatment of steel.

In his annual address as President of the Canadian Manufacturers Association, Col. Thomas Cantley, a pioneer and a leader in the Iron and Steel industry spoke as follows:

> "Capital, enterprise and energy can accomplish a great deal in promoting the welfare of any country, providing there is a foundation of efficient workmanship to build upon, but without that foundation our best efforts are doomed to failure.
>
> "Canadian workmen as a class are possessed of great adaptability and a high order of natural intelligence, and quickly become expert machine operators; but the Canadian artisan, outside of the engineering class, usually labors under the disadvantage of not having served an apprenticeship and of having no opportunity to become familiar with the principles upon which his work is based. In a young country like Canada, whose industries are in the making, there is a constant demand for men who know how things should be done, who understand the reasons why they should be done in a particular way, who can instruct others, and who, when things go wrong, can put them right. Neither our present factory system nor our educational system makes provision for the training of such men, and in consequence our industries and our workmen both fail to make the progress they should or to reap the rewards to which their industry entitles them.
>
> "Other countries are far in advance of us in the practical efforts they have made to increase the efficiency of their working force. The industrial

> pre-eminence they have secured should be an object lesson to inspire us and should determine us to do likewise.''

The work which the Garden City Press is endeaving to do through its publications, text-books and other literature and through its correspondence courses of study is designed to fill this need.

''The Iron and Steel of Canada'' is published monthly at the Garden City Press, the subscription price is $2.00 a year, but it is sent free to the student workers, taking any course of study in iron and steel or allied industries put out by the The Institute of Industrial and Domestic Arts.

On application, the Institute will send a questionnaire, on which the worker or student will state where he left off at school, the kind of reading or studying he has done since, if any, the class of work he is doing etc. On receipt of this the Institute will send the first study lesson which it is considered the student or worker is capable of doing. The result of the examination on the completion of this lesson will adjust the student to the course of study best suited to the work he is doing.

Apprenticeship

The average, well-regulated lifetime of a normal person may be divided into four distinct periods, and each of these may be controlled to a greater or less extent by the individual. These periods are:

First, from the age of 5 to the age of 14. During this period, the law requires attendance at school.

Second, from the age of 14 to the age of 21. This may be called the apprenticeship or formative period.

Third, from the age of 21 to the age of 45. This may be called the home-making period.

Fourth, from the age of 45 to the end of life. Dur-this period, the life of usefulness is rounded out, and the fruits of intelligent, well-directed effort are garnered and enjoyed; this is also the period of bitter reflection on the part of those who have neglected or misused their opportunities.

From the standpoint of both the individual and the State, the second period is the most important. It may not always coincide with the ages here specified; — it may begin earlier and last until later in life; — but however long or short it may be, it is during this period that the habits are formed which make or mar the whole future life. It is during this period that the young mind is most plastic, and is most susceptible to the influences within and without it. Fortunate is the boy or girl who has the benefit of wise counsel and follows it. When the apprenticeship period is spent under conditions of strict discipline as regards study, punctuality, and industry, the best possible results may be expected. The boy who works under a strict and exacting master learns to be obedient and exact in all his dealings; he also makes more rapid progress and makes a greater success of his life. If, in addition to his work, he spends a reasonable proportion of his spare time in study and in acquiring information, saves a considerable part of the money he receives that he does not require for actual living expenses, and forms no bad habits, he will find much more enjoyment in the third and fourth periods and will be the very best kind of a citizen.

When the Hon. Mr. Fielding was asked a few days ago for the item in his career that had exercised the greatest influence on his life work, he replied, after some thought, that it was the effort he made to hold his first job under an exacting master (see biographical sketch in Chapter IV of this volume).

Home Making

Of the four great periods into which one's life may be divided, the first and second periods are generally spent in a home provided by others. By the time the end of the second period has been reached, the boy has become a man; and he is expected to assume the responsibilities of a man and provide a home of his own. He is urged to do this by his natural inclinations, and through the example set by others.

It is not a difficult matter to provide a home when one goes about it in a careful, systematic manner. By following the plan suggested in the next chapter, the habit of thrift will be well established at the close of the apprenticeship period, and a substantial annuity will be provided for old age. Should circumstances be such that it seems best to adopt at once a housekeeping program, the young man's attention should be centered on this all-important subject. A little economy and careful study will make it an easy matter to furnish in a modest way comfortable, cozy, rented quarters. But, as soon as possible, a definite start should be made in the direction of owning one's own home.

Suppose this start be made at the age of twenty-five, and that the payments extend over a period of twenty years. To the young man twenty years may seem a long time to look ahead; but, with the responsibilities of citizenship, providing a home, and watching his children grow toward maturity, twenty years will pass all too quickly. This is the period of his most enthusiastic endeavor, and he should allow nothing to interfere with his efforts to guard against future contingencies. Immediately, therefore, after beginning housekeeping, he is advised to take out a life insurance policy sufficient at least to provide for the liquidation of the remainder of the purchase price of his home in the event of his death. Should such a contingency eventuate, his wife and family are left with a home, free of all incumbrances. The loved ones will also receive from the Dominion Government all the husband and father has paid for annuities, together with compound interest at the rate of 4 per cent per annum; and this, together with any other insurance he may have carried, will leave his family well provided for. But if the home maker live until the expiration of the twenty years, which is generally the case when he has a comfortable home and takes care of himself, he will have his home paid for at the age of forty-five, and probably before this, should he conduct his life in a thoughtful, intelligent manner.

Aside from the actual money value it represents, there are many advantages to owning one's own home. One possesses a pride in it that he can never derive from a rented property; he wishes to beautify it and make it more convenient and better adapted to all his needs. He does not begrudge what he may spend on it in the way of improvements, all of which directly enhance its value, to an amount, indeed, greatly in excess of the sums actually spent on it.

When a thrifty, industrious, and capable workman shows a disposition to help himself, and thereby improve the community of which he forms a part, he not only compels the respect of his neighbors but the firm he works for will generally extend assistance to him in time of need or necessity; and if he be otherwise qualified, it will promote him.

At the Garden City Press, a modest effort is being made to encourage its employees to follow along some such lines as those here suggested.

When a boy (or girl) enters its employ, preferably at ages of 14 to 16, he does so on a three-month's trial. If he likes the work and appears to be suited to it, at (or before) the end of the three-months trial period, he is required to sign a five-year apprenticeship agreement that sets forth, in detail, the kind of service expected of him, the amount of studying he is required to do, the schedule of wages he will receive from time to time, and the minimum amount he must invest in Dominion Government Annuities; and this contract is endorsed by the father, mother, or guardian. Adequate facilities are provided for studying, courses and books are recommended, and tutorial assistance is given.

At the end of each six-month period, his work is reviewed, and his grading is endorsed on his apprenticeship contract and also on the copy filed with the Industrial and Educational Publishing Co. If he makes the maximum of progress, — which the majority have done, — and continues to do so at each succeeding six-month period, he receives wages according to the following scale:

1st 6 months, $5 per week
2d 6 months, $6 per week
3d 6 months, $8 per week
4th 6 months, $11 per week
5th 6 months, $13 per week
6th 6 months, $16 per week
7th 6 months, $18 per week
8th 6 months, $21 per week
9th 6 months, $24 per week
10th 6 months, $27 per week
6th year, $36 per week
7th year, $38 per week, and up,

according to quantity and quality of production.

Some may say that it is not possible for a boy to live away from home on five dollars a week. But if a boy makes up his mind to do things it is surprising what he can accomplish. There is at least one fine example among the boys at the Garden City Press. This boy was determined to study the business of Typography. He had no money and received no assistance or even encouragement from his family or friends. He signed the apprenticeship contract, rented a room and undertook a board himself. His hours at the shop were from seven-thirty a.m. to five-thirty p.m. with one hour at midday. Being an early riser he contracted to look after a couple of cows and a few hens in his spare time. His plot was one of the best among the Garden City allotment gardens, and it provided his requirements of vegetables. In his work and studies he stands high. In addition to meeting all his expenses he saved one hundred and thirty-six dollars in his first year at the Garden City Press.

Three months after being placed on the payroll, every employee at the Garden City Press enters the group insurance class, and a policy is issued to him (or her), — the entire premium being paid by the Industrial and Educational Publishing Co., — by the Metropolitan Life Insurance Co. In the event of the death of the insured, the amount of the policy is paid to his family or his heirs; but if he (or she) be totally disabled, it is paid to him (or her). For the first year, the amount of this insurance is $500; and it automatically increases $250 for each year of service, until the maximum of $3000 is reached. Should the person insured leave the employ of the company, this insurance lapses; and should he return, it again begins at the minimum of $500, and increases each year as before. However, if he so desire, he may continue the insurance for the amount he was insured for at the time he left, by paying the premium himself.

Each boy (or girl) is required, by the terms of his ageement, to invest in Dominion Government Annuities an amount that shall be, at least, equal to the amount invested for him by the Industrial and Educational Publishing Co. Arrangements are being made whereby an employe of the Garden City Press will have the opportunity of owing his own homes on the co-partnership plan.

The group insurance at the Garden City Press is carried in the Metropolitan Life Insurance Co. in order that each worker may participate in the benefits of the excellent wellfare work done by that company. The literature distributed among its policy holders by this company is well prepared, and gives the information necessary to health and life. Excellently illustrated pamphlets and booklets cover the following subjects:

How to Live Long
First Aid in the Home
The Health of the Worker
A Man in Consumption
The Child
Care of the Teeth
All About Milk
Eyesight and Health
The Red Trail of the Automobile
Whooping-Cough
How to be Happy and Well
Food Facts
Metropolitan Cook Book

The free nursing service is also of great value, both in its ministration and in the habit it forms of attending to minor ills that might develop if not taken in time.

Moreover, it has been well demonstrated that the cheapest life insurance company is the one that does the most to preserve health and prolong life.

Likewise, the cheapest fire insurance company is the one that makes the greatest effort to prevent a fire. The wonderful saving and example to workmen in the matter of conservation are more easily demonstrated in the case of fire insurance than in the case of life insurance. For three years after the Garden City Press was built the fire insurance risk on it was carried in the regular tariff companies at a rate of 70 cents per $100 per year. During this time the plant was not visited or inspected by the insuring companies. Since then the insurance has been carried in the New England Mutuals at a rate of less than 4 cents per $100, and the building is regularly visited and inspected four times a year. In order to qualify for membership in the mutuals it was necessary to install an automatic sprinkler system, and stand pipes, and provide fire extinguishers, hoses, pails, reels, etc., and recruit a fire brigade from among the employees. This not only provides an excellent fire-fighting equipment but it also inspires everyone to guard against the causes of a fire, and thereby teaches in a practical way the value of conservation. A fire in an industrial plant not only entails great loss of property but also occasions loss of employment.

Canada possesses great and many industrial and cultural opportunities for the one who has the ambition and energy to create and the foresight and good sense to conserve and save.

There is another side of home-making quite as important, if not more so, than the one already dealt with, which has not been overlooked in the scheme of service that is being worked out at the Garden City Press, viz., the domestic side. While this side is of interest to all parties concerned in the making of a home, it is of special importance to the housewife and to the young girl, whether still in the home, or at work on the farm or in the shop, factory or office. In modern phraseology the study of this side of home-making and management is known as Domestic Science and Household Economics. This subject is well presented in the prospectus prepared by Miss Katherine A. Fisher, the head of this Department at the Garden City Press, and the writer cannot do better than repeat what Miss Fisher says of it.

"Housekeeping as well as home-making conditions are constantly requiring new adjustments with wide demands on the knowledge and ability, as well as the time of the housewife. She too may well adopt as her slogan, "Study your Job."

"It is true that each decade sees some domestic craft passing from many homes into industry. The candle mould and the spinning wheel have become a memory, the soap kettle and the quilting frame are being set aside, the curing of meats, even in the country home, is becoming more rare, and commercial bakeries are serving a rapidly growing number of households. Other occupations, started by women in their homes long before the centuries were counted. have gone to the factory and shop within this last century. They have taken with them much work that has been both interesting and picturesque, but their transfer to industry has brought new duties to the home manager.

"In the first place, large numbers of workers have followed these industries out of the home, thus greatly changing family life. The family group, once working together within the household to produce the materials they needed, has been broken up during working hours at least, and the mother now often finds herself left to carry on the work alone.

"The last census also reveals the passing of the servant in the house; she too is going into industry. Many of those still available for household service do not appear to have the ability to give much competent assistance. It follows then that the management of the household must be worked out along lines that *simplify* housework, through a study of the best arrangement and use of time, equipment and materials. This is really "household engineering" carried on from the home managers point of view and leading to a better control over housework.

"These simpler methods in housekeeping are of growing importance to women in view of the newer claims made upon them as citizens, claims which call for a serious study of questions of the day. For housekeeping itself no longer stops at the threshold but is linked in a broad way to the outside world by countless bonds, extensions of each household which go to form a larger home, the community. Undoubtedly among the best services which home managers can offer are those in which they cooperate with others in the community and through them with the whole country. They cannot then, in doing this, lose themselves in their own housekeeping affairs or give these an undue place, for questions of health and housing, of food and clothing, and of the welfare of children, are not individual but country-wide.

"On the other hand, every woman, in meeting the needs of family life within her own household, faces today many complex questions. The number and variety of household necessities on the market make buying anything but a simple business, and spending the family income wisely means careful weighing of values. Old materials in new dress, ready-to-serve and ready-to-wear crowd the shops. Foods, washing powders, cleaning materials and other supplies are more and more being sold in convenient package form, in boxes, cans and bottles but the **true value** of their contents is not always easy to estimate. Housekeepers are having more done for them, but they pay for it. More than ever, then, instructions and advice are needed both **in selecting** and in **using** to advantage what our markets offer.

"The custom dressmaker is vanishing more rapidly than the competent household assistant, and ready-to-wear clothes very often fail to supply our clothing needs. It is a boon, then, to the home manager, as well as to the school girl and business woman, to be able to make some of her own clothes. Even though a number of schools now offer this instruction, there are many would-be students who cannot take advantage of it. They can only use instruction which comes to them in their own homes.

"Scientific investigation is continually throwing new light on home problems, on questions of nutrition and food preparation, and on methods of laundry work and care of the house. The study of psychology, as it is applied to the mind of the child, is leading to new methods in child training and to new ideas in regard to the welfare of children. It is of the greatest im portance that all mothers should become students of such questions, and of the ways in which they may be applied to their daily work and interests.

"In his rectorial address to the students of St. Andrews University in May, 1922, Sir J. M. Barrie referred to the home as 'the oldest university in Scotland.' This is true of good homes the world over. They are the schools of the greatest of arts, the art of living and of living together. But to be worthy of such a tribute the home managers must ever be students, closely in touch with changing conditions and new methods.

"The courses sent out from the Garden City Press are

The house and its management
Managing the family income
Household buying
Home furnishing and decoration
The care of the house
The home laundry
The daily meals
Care and training of children
The family health
Home dressmaking."

Hugo's Language Institute

One of the best ways to prepare for opportunities is to learn to do some one or more things so well that others will begin to look upon one as an authority. Then when something is to be done, that requires the special knowledge he possesses, he stands a chance of being selected to do it.

Canada is an important exporting country, always looking for foreign markets. Frequently an exporting house requires to send a clerk or salesman to South America or some other foreign country, and the choice is limited to those who can speak and write in the lanquage of that country. Or it may be that the firm requires some translations and the one who can do it is worth just that much more to the firm than the others in its employ. Or if a young man or woman wishes to develop a little enterprise he or she cannot do better than study the language of a particular country, with a view to extending the business of his or her employer into the markets of that country.

In a country like Canada where fully one third of the population speaks the French language, and where French is as much the official language as English, it is very convenient and often necessary to have some knowledge of French.

Moreover, the study of a language develops brain power almost, if not equally, as well as the study of any other subject.

Through its affiliation with Hugo's Language Institute of London, England, and Paris, France, the Institute of Industrial and Domestic Arts is in a position to offer excellent courses in the study of languages. These courses purport to give an English-speaking man, in three months, a useful knowledge of French, Spanish, Italian, German, Russian, Dutch, Danish, or Portuguese. There is also a similar course in English for the French-speaking student.

These courses are put out by Hugo's Institute under the caption of "How to Speak (any of the above languages) in Three Months Without a Master". This Institute also issues a series of small volumes under the following title "How to Say All You Want When Travelling in France, German, Italy or Spain" There are also other volumes such as

Hugo's French Grammar Simplified
Hugo's French Genders Simplified
Hugo's French Verbs Simplified
Hugo's French Idioms Simplified
Hugo's French Composition Simplified
Hugo's French Commercial Correspondence

Any of these books or courses of study may be purchased at the Garden City Press, and in the case of the study of the French language, assistance by Correspondence Instruction may be had.

Bennett Accountancy Institute

R. J. Bennett, the founder of this institution was born in Canada in 1871. His early education was received in the Ontario Public and High Schools and supplemented by special and post-graduate courses in the United States, including a course in the University of Washington. He was a teacher in public and business schools for fifteen years, including the Detroit Business University, and the Peirce College of Philadelphia, one of the largest and best business schools in America. He also had three years experience as bookkeeper for a large wholesale firm.

There is a great and over-growing demand for accountants. They are indispensable to the Federal Government, Provincial Governments, municipalities, banks, corporations and companies. They are needed by manufacturers, sales organizations, and private individuals.

The general accountant or bookkeeper has a large sphere in which to operate. Every concern requires one or more bookkeepers, and every business man, if he is in business for himself, should have a knowledge of bookkeeping, particularly in these days of income, sales and other forms of taxation.

The special departments of accountancy that offer particularly good openings are Auditing, Investigations and Factory Cost Accounting.

Instruction in bookkeeping and accountancy by correspondence is no longer an experiment; by actual practical results it has proved itself to be a complete success.

Under the correspondence plan the student devotes only his spare time to study; he need not suspend his usual occupation even for a day, and the expense he incurs is but a fraction of that entailed by attendance at even the cheapest of the resident schools.

As a student of the Bennett Accountancy Institute he studies lessons prepared by a practical accountant of the highest ability and a recognized authority on accountancy problems.

Hays Schools of Combustion

In the best organized industries where a quantity of coal or other fuel is used, the man with a special knowledge of the science of combustion has a decided advantage. This is another case where a young man with a little enterprise has an opportunity of acquiring a special knowledge of a subject that is demanding more and more attention.

The Hays Course in Combustion Engineering teaches good boiler room management and how to use a mininum of fuel with a maximum of efficiency. Any man with intelligence who can read can learn these things as the Hays Schools teaches them. To the fireman who studies while he watches his boilers, this course is most interesting and easily followed. Every young man, aspiring to an executive or technical position which has to do with the supervision and control of fuels, whether coal, oil or gas, requires a practical knowledge of the science of combustion such as is given in this course.

Financial success, whether in the individual, business or state, depends more upon the application of economy than anything else. The boy who saves fifty cents out of a weekly wage of five dollars is a greater financial success than the man who gets five thousand dollars a year and exceeds this amount in his annual expenditures. It is the same in business. By close economy and good management one firm is able to do work cheaper than another, paying the same wages. If they are both competing for business in the same market, the first keeps busy and makes money while the other is idle and finally goes to the wall. The difference is simply one of economy in management. The boy who learns to be economical in his own personal expenditures and ‘‘studies his job’’, will eventually make the most successful manager of industrial and other business concerns as well as accumulate the largest amount of wealth and makes the greatest success of life.

CHAPTER III

HOW TO SAVE MONEY

It is impossible for the person who spends his time in idleness and pleasure to save money, whereas he who finds companionship in books and study automatically accumulates. He who employs his spare time in study has less occasion to spend, and his earning power increases more rapidly by reason of greater brain power and increased skill in his work. Moreover the boy or man who studies is apt to be more methodical and farsighted. He does not live for the day only but builds for the future. The boy who begins to cultivate habits of frugality and thrift by laying by a part of his earnings, no matter how small, will be surprised by what he has accomplished in a few years.

Government Annuities

Suppose he begins by putting by a dollar a week. At the end of the year he has $52.00. But he should not leave it in the bank for so long. He should at first invest it in some way that he cannot get at it until his habits of thrift are well formed. For this purpose there is no better investment than the purchase of Dominion Government Annuities. With $14.74 a boy at the age of fifteen can buy a $10 annuity through any post office in Canada. If he lives to the age of sixty-five the Dominion Government will pay him $10 a year as long as he lives beyond that age. If he should die before reaching that age the government will return to his heirs the $14.74 with compound interest at 4 per cent. per annum. If he should die after reaching the age of sixty-five but before he has received ten annuities, the remainder of the ten annuities will be paid to his heirs. In this way if he laid by one dollar a week the first year, two the second year, three the third, four the fourth etc. before he was twenty-three years old he would have provided an annuity of over one thousand dollars. Should he die say at the age of forty-one, the Dominion Government will pay to his family a sum of money in the neighbourhood of four thousand dollars, should he die at the age of fifty-five his family would receive a sum of money in the neighbourhood of seven thousand dollars. Or should he die at the age of sixty-four years his family would receive over ten thousand dollars.

If at any time the annuitant wishes to change the date of maturity he has the privile ge of doing so. For instance, if a sixty-five-year annuity is purchased but later on in life he wishes to change it so that he will begin to receive the annuity say at fifty five, or any other age, he may do so.

The cost of a ten dollar annuity maturing at the age of sixty-five for a girl aged fifteen is $15.67. The average life of a female is longer than that of the male and hence the price is slightly higher.

Of course such an annuity may be purchased at any age, but the cost goes up as the years advance. For example the cost of a ten dollar annuity for a man at the age of forty-one is $40.86. at the age of fifty-five it is $70.76. and at the age of sixty-four it is $101.15.

The time to lay by a few dollars for old age is when one is young. At that time it costs very little as compared with later on in life. At that time it is of the greatest assistance in encouraging habits of frugality, which will be of untold value throughout life. At that time it sets a fine example of foresight and thoughtfulness, qualities of much value to a young man or woman. In addition it establishes a feeling of confidence and satisfaction that, no matter what happens, he or she will be financially independent in old age or in the event of prior death will leave a substantial amount to the family.

Once the money is paid to the Dominion Government and the Annuities certificate issued, it cannot be withdrawn except by death or old age.

Moreover Dominion Government Annuities are the cheapest that can be purchased anywhere, as all expense in connection with them is paid out of the general revenues of the country.

But the main point to be remembered is that the main value in the purchase of Annuities at an early age lies not in the money that is saved; but in the habit of thrift formed thereby, which is the best guarantee of financial independence throughout life.

Bank Deposits

Every boy and girl should know something of the financial institutions of their country. They should have sufficient information at least to understand that the banking institutions of any country are its principal reservoirs of money and credit. Like the pumping station of a city, or, better still, like the heart of the human system, they keep the streams of money and credit coursing through the country's veins for the nourishment and growth of its industry and commerce. Where this circulation is sluggish, industry and commerce languish. Where it flows free and strong, the community prospers, providing the people know how to make proper use of the credit offered.

No more credit can be taken out of the system than is put in, and if there is no more put in than is taken out, industry and commerce ceases to grow and expand.

It is a grave and dangerous mistake for people to feel that banks can create money and credit. Those that have attempted to do so, have had but a short existence. Credit is created by the worker and producer of saleable commodities and more particularly by those of them who produce more than they consume. The person who consumes more than he produces is a drain upon the credit of the country. Furthermore he is a drain upon the credit created by others, if he has not previously laid by something for himself in the shape of property, bank balance, annuity or insurance.

Insurance

For many years insurance was regarded as a form of gambling. In fact it was from this propensity in the human race that it took its rise.

But as the results from experience accumulated and the science and mathematics of chance developed, and more particularly as the needs of business required that the possibility of a loss in the event of certain contingencies arising be minimised, insurance in all its forms settled down more and more on a broad basis until today it is not only sound and legitimate, but absolutely necessary to many business activities and personal and family responsibilities.

Insurance, whether life, fire, marine, accident, burglary, or fidelity, as it is conducted today, is based upon a science which deals with the equitable distribution among all the members of a company or community, of the loss, which any one member may suffer as a result of a contingency arising over which he has no control. The position has thus been reversed, and today, the person who assumes obligations to his fellowmen without insuring himself against loss is taking a risk that brands him as the gambler, and not the person or firm that offers to insure his risk. On the other hand, the person who insures to cover his loss in the event of a contingency arising, and who does not take all reasonable precautions to avoid or prevent this contingency arising, or who deliberately encourages its arising, is a criminal of a dangerous type.

Provide a Strong Box

If a boy has not a strong box at home he should get one in which to keep his Annuity Certificates, Bank Book, Insurance Policies and all other business documents he acquires from time to time. If these documents are left kicking about, he develops a disregard for them that is not conducive to thrift. It is everything else: if a boy has little regard for his books, the horse he drives, or the tools he works with, he will never make much progress with them, he generally respects the things he takes an interest in.

Study, Work and Save

The person who organizes his or her life along lines of

STUDYING-WORKING-SAVING,

giving attention to each of these factors in the order or their importance, is sure to succeed.

SAFETY DEPOSIT BOXES FOR EMPLOYEES AT THE GARDEN CITY PRESS

CHAPTER IV

SUCCESS DEFINED

Lest the message this volume is intended to convey should be misconstrued or insufficiently clear let it be distinctly understood that success in life does not mean the accumulation of wealth. Wealth is simply a tool with which one works; so is knowledge. Neither is valuable in itself; but only in the use that is made of it. A portion of both is absolutely necessary to a life of usefulness.

Success in life is a sense of some one thing done well, if possible, better than it could be done by anyone else. The man who has made a success in life is he who can say, with Mr. Henry Van Dyke,

Let me but do my work from day to day
In field or forest, at the desk or loom,
In roaring market place or tranquil room;
Let me but find it in my heart to say
When vagrant wishes beckon me astray;
This is my work; my blessing, not my doom;
Of all who live, I am the one by whom
This work can best be done, in the right way.
Then shall I see it not too great, nor small,
To suit my spirit and to prove my powers,
Then shall I cheerfully greet the laboring hours,
And cheerfully turn, when the long shodows fall,
At eventide, to play, and love, and rest,
Because I know for me my work is best.

CHAPTER IV

WHO IS WHO AT THE GARDEN CITY PRESS

JAMES J. HARPELL

(an autobiography)

Was born on a farm at Inverary, Ont., about fourteen miles north of Kingston. As a youth he was quite the ordinary country boy, fond of farm life, but with no liking for school. After the age of ten, he attended school only during the winter months and quit entirely at twelve. At fourteen he entered the foundry of John McEwen and Son, Kingston, as an apprentice. His salary the first year was $1.50 a week of sixty hours, $3.00 a week the second year and $5.00 during the third year.

At McEwen's foundry it was his good fortune to meet one Mert Egan, for whose ability as a machinist and advice he had a high regard. Egan had little education and was for ever bemoaning this handicap and urging Harpell to return to school. The appeal of the foundry was too strong for him to quit, but acting on Egan's advice the young apprentice began to study at home the same books for which at school he had developed an intense dislike. What little he had learned at school had slipped away, and his first effort now was to learn to read, which he did at a night school kept by one J. B. McKay, a kindly old Scotsman who conducted a Business College at Kingston. What little the subject of this sketch has achieved is due to the mental and material advantage of study in work which he was inspired to undertake by the good advice and assistance of these two gentlemen. What more noble or worthy service can the men of a generation perform than by encouraging and assisting the youth who come under their influence to better fit themselves for the responsibilities of their generation? Many would be more zealous in such opportunities did they but know the gratitude they could thereby earn and the good they could thereby do.

Young Harpell continued his home studies and work in McEwen's foundry for three years until early in the autumn of 1891 when the business went into liquidation, evidently as the result of much experimental work attempted on the vertical compound engine without the necessary skill of educated mechanics. During the autumn of that year Harpell tended the steam engine of a threshing machine, and at the same time furthered his studies sufficiently to pass the examination for entrance to the high school in the following December. The winter of 1892 was spent in a lumber camp and the following summer on a farm, but he continued to study; and at the midsummer examinations received a district teacher's certificate. Continuing his studies while working at anything he could get to do, such as teaching, working on the farm, selling fruit trees, books etc., with but a short attendance at the Sydenham High School, he passed the examinations for a third class certificate in 1893, a second class certificate in 1894 and wrote, but failed, for a first in 1895. Mathematics was the pivot around which all other studies centred. It was the first to arouse enthusiasm and seemed to have the call when the interest was inclined to wane.

His studies up to this time were confined to Mathematics, Physics, Chemistry, Literature, History and Geography. To continue his studies through a University course he required Latin, and two modern languages. This requirement almost ended his career as a student, as it does in the case of so many others. But with much effort he acquired a sufficient knowledge of Latin, French and German to matriculate and then continued his studies through the curriculum of Queen's University to the degree of B. A. which he received in 1901, thirteen years from the time he entered the foundry and began to study.

During his course at Queen's he came in contact with another gentleman, namely the late Principal Grant, whose ideals and zeal for the welfare of young men and women profoundly impressed and inspired Mr. Harpell.

All the time he could spare from work between the years 1902 and 1909 was spent in the study of law, industry, commerce and finance. The period between July, 1909, and August, 1910, he spent in Europe visiting the industrial centres of Great Britain, Germany, Belgium, Holland and France, studying at first hand the sources of raw materials, methods of their manufacture and distribution, facilities for industrial education, etc. This experience left him with the conviction that technical literature and technical education were more responsible for the industrial and commercial ascendency of Europe than any other factor and he returned determined to encourage and assist in building a service along these lines for Canada.

He always had a warm spot in his heart for self-help and home study, and never lost an opportunity to encourage it in others. In two school sections where he taught day classes, one a rural section and the other a village, he organized and taught night classes.

Having acquired his education almost wholly by home study it was inexpensive and occasioned little or no interruptions in his earnings. Moreover opportunities for spending were curtailed by reason of the amount of time spent with books. All of which facilitated the accumulation of savings that helped materially when the opportunity came for laying the foundation of a business

The time for making such a beginning had already arrived in the early part of 1907. when he and Mr. Alexander Longwell, a fellow alumnus of Queen's, purchased the old Mining Review and began the publication of the Canadian Mining Journal. But the real start with a definite purpose was made in the spring of 1911 when the first type setting machine was purchased that formed the nucleus of the printing plant at Toronto. By the purchase of the Biggar-Wilson business in 1912 they acquired the Pulp and Paper Magazine and the Canadian Textile Journal. In 1913 the editor of the Pulp and Paper Magazine was chosen by the Dominion Government as the first director of the Forest Products Laboratory which necessitated the moving of the Pulp and Paper Magazine to Montreal to enable the editor to fill his dual position. At the same time the "Journal of Commerce" was purchased to provide a printing plant at Montreal. During the same year the Shareholder was purchased and amalgamated with the Journal of Commerce.

In April 1914, the Hon. W. S. Fielding became associated with the business, which was expanding rapidly both at Toronto and Montreal. A separate incorporation was formed under the name of Journal of Commerce Publishing Co , Ltd., with the Hon. Mr. Fielding as President. The Journal of Commerce was taken over by this company and published daily. The Canadian Fisherman was started about this time. But the outbreak of the war sent a shiver through the industrial life of the country, the Journal of Commerce reverted to its weekly form and the business marked time for two or three years.

By 1917 the business was getting its legs again and the time seemed opportune for a bold start in the direction of the original goal. The business of the Industrial and Educational Publishing Company was not begun in 1911 as an ordinary commercial undertaking conceived in a desire to make a business and earn profits. Of course it has to earn a fair return on the capital invested, if it is to continue. The conception was rather that it should be a source of literature and education calculated to encourage and assist in the development of the intellectual and material resources of Canada along the most improved lines suggested by the experience of this and other countries. Realizing that such a movement should be made on the advice and with the co-operation of those likely to be interested in such a matter, arrangements were made for a meeting to which representatives of all national organizations were invited. This meeting was held at the University Club of Montreal on March the 5th, 1917, and was attended by fifty-five prominent Canadian citizens, from as far east as Halifax and as far west as Winnipeg, and included representatives of all national organizations having to do with industry, commerce, finance and education in Canada. At the end of the meeting a resolution was unanimously passed endorsing and inaugurating the movement proposed.

But the facilities available at either the Toronto or Montreal offices of the company were not adequate nor did they offer opportunities for the expansion necessary. In order to provide these the site at Ste. Anne de Bellevue, the junction of the highways between Montreal, Ottawa and Toronto, was purchased in the autumn of 1917. The Garden City Press was built in 1918 and the Montreal printing plant and the editorial and other offices moved there in 1919. Since then about thirty homes for editors and workmen have been built, and a fair size community laid out and developed. Much additional equipment has been added to the printing plant, the number of publications increased and the educational courses as set forth in this booklet gotten well under way.

At Toronto the printing plant has been enlarged to the limit of its president quarters at 263-5 Adelaide St. West in order to take care of the ever increasing growth of work.

J. J. Harpell is **President** and **Managing Director** of
The Industrial and Educational Publishing Company, Ltd.

Vice-President of
The Garden City Development Company, Ltd.

President of
The Institute of Industrial and Domestic Arts.

Secretary-Treasurer of
The Journal of Commerce Publishing Company, Ltd.

and **Editor** of
The Canadian Directory of Industry Commerce and Finance.

ALEXANDER LONGWELL

Was born on a Farm at Foxborough, Hastings County, in the Province of Ontario. His elementary education was received at the local public school and at the high school, Belleville, Ont. He entered Queen's University in 1896, and graduated with B. A. in 1900 and with B. Sc. in 1903.

The opportunities for profitable and pleasant life work presented by the vast undeveloped resources of the country made an early and strong appeal to young Longwell, so strong that the allurements of medicine, arts, law or theology did not shake it during the seven years he spent at Queens. No doubt the habit of spending his summers in outdoor occupations preserved his attachment for his early affinity. At any rate, as soon as he was hooded and the valedictory of his year at the University pronounced, he hied him to the outlying geological areas that presented the best prospects for mineral discovery. The summer of 1903 uncovered no prospect for Mr. Longwell rich enough to encourage development. But during 1904 he was more fortunate. He was one of a small party whose names are associated with the early silver discoveries at Cobalt, Ont. Few of these have reaped the full reward of a successful prospector. Their love for the work did not hold them, once they made a little money, which in many cases slipped away as quickly as it came.

But not so with Mr. Longwell. From 1904 until 1907 he remained on the job and gave it his best efforts. His office and bunk were within calling distance of the mine he was developing, and he answered the demand for his presence as readily and cheerfully when it came in the night as during the day. His work was his pleasure, and he studied it in all the detail of mining, concentration and extraction.

From the beginning he was associated in this work with Lieut. Col. R. W. Leonard of St. Catharines. Together they developed the Coniagas (from the composition of the ore, Co-cobalt, Ni-nickel, Ag-silver, As-arsenic) Mine, built a concentrator at Cobalt and a smelter at Thorold, Ont. Their high regard for conservation did not permit them to stop here. For some years the smelters of cobalt ores extracted only the silver and sold the residue or rich speiss to the

European Cobalt Syndicate which at that time controlled the World's Market for the cobalt metal and oxides. Messrs. Leonard and Longwell collaborated with the Staff of the O'Brien Smelter at Deloro, Ont., and together they succeeded in refining the Canadian speiss and in transferring the World's source of cobalt refined products from Europe to Canada.

The part that Messrs. Longwell and Leonard have had in the development of the mineral wealth of this country stands as a fine example of how this work can be done without stock speculation; as well as an evidence of the wealth that may be gained when intelligence and thoroughness are applied, as they must be in any successful business.

Much of the wealth resulting from Mr. Longwell's discoveries at Cobalt has been re-invested in the development of other mines at Madoc, Queensboro, Havelock, Porcupine and elsewhere.

As already stated in the preceding biographical sketch Mr. Longwell has been associated with Mr. Harpell in the founding and development of the business at the Garden City Press.

Mr. Longwell is **Vice-President** of

The Industrial & Educational Publishing Company, Ltd.
and **Vice-President** of
The Journal of Commerce Publishing Company, Ltd.

HON. WILLIAM STEVENS FIELDING

In the opinion of the late Andrew Carnegie an academic course tends to stamp out the fire and energy necessary to a successful career as well as deprives the boy of a valuable experience and training gained from a period of apprenticeship in the business of his life work. One cannot read this comment without mentally speculating on what might have been the result had Nova Scotia's two great sons, the late Joseph Howe, and the subject of this sketch, the **Hon. W. S. Fielding,** taken a high school course and spent four or more years at a university before going to work. It is doubtful if such a course would have added anything to the career of either and it certainly would have been a great loss if it had deprived the Finance Minister of his characteristic fire and energy that have meant so much to the success of his career and are now so necessary to the discharge of his present responsibilities. Both these men started out in life with nothing more than an incomplete public school course, but they were both earnest students and hard workers at whatever they undertook to do, with the result that the work in hand was invariably done better than it could be by any of their contemporaries.

The **Hon. William Stevens Fielding,** P. C., M. P. Finance Minister of Canada, was born in Halifax, N. S., where he received a public school education. At the age of sixteen he entered the office of the Halifax Chronicle as a clerk. Those under whom he served were exacting, but Mr. Fielding was determined to hold his job. The effort he put forth by reason of this determination carried him by easy stages up the ladder of success and into the position of managing editor. The hours were long and the pay small; and he spent so much of his time at study that he had little opportunity to spend.

As a boy he took an active part in debating, where he was also a leader because he took seriously and prepared well any subject he attempted to speak on. From these debating matches he graduated to the public platform, where he never hesitated to defend by speech the editorial stand he took in his paper.

At the age of thirty-four he was elected to represented Halifax in the provincial legislature, and six months afterwards was given a seat in the cabinet. His disposition to fortify himself with a thorough knowledge of the work at hand had now become a habit, and by reason of it he soon stood forth in the eyes of the public as the strongest man in the government. He was made Prime Minister of Nova Scotia in 1884, two years after entering the legislature. For twelve years he occupied this position and during that time so entrenched his government in the hearts of the people that the party has remained in power ever since.

He resigned his position in the government of Nova Scotia in 1896 to become Minister of Finance in the cabinet of the late Sir Wilfrid Laurier, where he remained until his government was defeated in 1911. Thus for nearly twenty-nine years, from 1882 to 1911, the Hon. W. S. Fielding held a cabinet position, which is the longest continuous term to the credit of any man serving under the British Crown.

In April, 1914, the Journal of Commerce Publishing Company was organized and the Hon. Mr. Fielding became its president and editor-in-chief of the Journal of Commerce. In 1919 the Garden City Development Co., Ltd., was formed, with the Hon. W. S. Fielding as president, to provide housing accommodation for those at the Garden City Press.

In 1921 the Hon. Mr. Fielding was again appointed Minister of Finance in the cabinet of the Hon. William Lyon Mackenzie King and at the same time resigned from the editorship of the Journal of Commerce.

At the Garden City Press the Hon. Mr. Fielding retains his position of

President of the **Journal of Commerce Publishing Co., Ltd.,** and

President of the **Garden City Development Co., Ltd.**

JOSEPH NEWELL STEPHENSON

Was born at New Rochelle, New York, and received his education in the public Schools of that place and the High School at Great Barrington, Mass., whither the family later removed. His paternal grandfather, John Stephenson, a relative of George Stephenson, the inventor of the locomotive, was himself noted as an inventor and as the builder of the first street car. Many improvements in tramway traffic stand to his credit. The maternal grandfather, John Middleton, was a mechanic and pattern maker, and it is not surprising that young Stephenson had leanings toward an industrial career.

On graduation from High School, he was qualified to enter Williams College, but lacking funds he entered the employ of the Stanley Instrument Company and had risen to a responsible position when an opening with a more attractive future was available in the Paper Mill of the B. D. Rising Paper Company at Housatonic, Mass. It soon became apparent that further education was necessary in order to reach the top, and with the encouragement, which was constantly forthcoming, from Mr. R. O. Harper, Superintendent of the Mills, Mr. Stephenson spent several years of employment as third hand, back tender and machine tender, preparing himself, in spare time, for entrance to the Massachusetts Institute of Technology. The cost of the four years study, at Tech, was mostly paid for by doing odd jobs in spare time, and selling books during vacations.

After four years spent in pursuing a Course in Chemical Engineering at the Massachusetts Institute of Technology, and succeeding in catching a few of its tail feathers, Mr. Stephenson accepted a position as Instructor in Mathematics and Drawing at the Lawrenceville School, Lawrenceville, New Jersey. This was a valuable contact with adolescent boys, which provided an insight into their ambitions and capacities After a year in this position an opportunity came for work connected with industrial education at the Rose Polytechnic Institute at Terre Haute, Indiana, as Instructor in Industrial Chemistry. Three years in this position, with coaching the track team as a side line, brought Mr. Stephenson into contact with the industries of the middle West, including the manufacture of straw board, for which process there was a mill in the City which was frequently visited by him and his students.

When the school of pulp and paper making was organized by Professor R. H. McKee at the University of Maine, Mr. Stephenson took charge of the Paper Making Courses, and with the aid of his students, laid out and set up the machinery required. When he left the University of Maine in 1916 to become Editor of the Pulp and Paper Magazine of Canada, there were six Courses in Paper Making, and four in Pulp Making, with a roll of 53 Students in this Department.

On coming to Canada at the beginning of 1917, Mr. Stephenson was at once asked to serve on the Education Committee of the Technical Section of the Canadian Pulp and Paper Association and as Chairman of the Committee on Abstracts and Publications. He has always taken a keen interest in the activities of the Technical Section, and when a joint meeting of the Education Committees of the Canadian and American Associations decided on the preparation of Textbooks on Pulp and Paper Making, the joint executive Committee, then formed, chose him as Editor-in-Chief of the Books.

Mr. Stephenson is a **Director** and **Secretary** of
The Industrial and Educational Publishing Company Ltd.
Director of
The Garden City Development Company, Ltd.
Principal of
The Institute of Industrial and Domestic Arts.
and **Editor** of
The Pulp and Paper Magazine.

THOMAS W. HARPELL

Like his brother is a son of the soil, but unlike J. J. he found sufficient interest in his elementary studies to remain at school; or at least he had sufficient filial obedience to do so, for at an early age his mother began to look upon him as the prospective theolog. of the family of four boys and three girls. With this in view he went steadily through the public school, the high school and into Ottawa University. At the capital city he developed a keen appreciation of athletics and took a prominent part in intercollegiate football and hockey.

In 1900 he left Ottawa and entered Queen's University where he registered for a course in Arts. At Queen's he continued his interest in sports, particularly intercollegiate football, in which game he excelled. But he left the University without completing his course and taught school for several years before entering the business of the Industrial and Educational Publishing Company, Ltd.

The editorial and educational phases of the business have little attraction for Tom; but he soon mastered all the details of printing and developed a keen sense for production costs and selling prices, as well as a fine appreciation of the value of quality of product and service.

His kindly and almost apologetic manner easily secures the respect and co-operation of his fellow workers, in all of whom he takes a deep personal interest. In business as in sport he "plays the game".

Under T. W.'s management, the General Superintendency of Mr. P. Bell and the Office Directorship of Miss I. R. Husband, all of whom have been with this company for many years, the Toronto end of the business has prospered and grown to the limit of its present quarters, at 263-5 Adelaide St. West.

Mr. T. W. Harpell is a **Director** of

The Industrial and Educational Publishing Company, Ltd.
and **Manager** of

The Garden City Press of Toronto.

A. STANLEY CHRISTIE

At the Garden City Press, **A. Stanley Christie** is the "man from Glengarry" and like so many of the country's builders that county has produced is a big man in every sense of the word—big in stature, big in ideas and big in his relations with his fellowmen.

Mr. Christie was born on a farm at Apple Hill, in the county of Glengarry, Ontario. Before he left his native county, she provided him, as she does in the case of so many of her sons and daughters, with a good common and high school education. He also had a term at the Cornwall Model School, where he headed his class with honors. He spent two years in the schools of the county as teacher.

When he left Glengarry he went directly to McGill University where he spent three years on a course in Arts. Being an early riser and a hard worker he found the curriculum which was set for the average student, fell far short of filling his long, busy days and so he began to look around for supplementary work. A few hours each day were given to athletics, in which he was made captain of the McGill Intercollegiate Senior Association Football Team. Several hours each day were given to other college activities and he still had sufficient time left to acquire some experience in the field of advertising.

This work appealed to him from the moment he made the contact, and it began at once to absorb more and more of his attention and time, until it finally pulled him away from his work at McGill.

Mr. Christie came to the Garden City Press in March 1916.

He is a **Director** of
The Industrial and Educational Publishing Co., Ltd.

a **Director** and **Secretary** of
The Garden City Development Co., Ltd.

a **Director** of
The Journal of Commerce Publishing Co., Ltd.

and **Business Manager** of
The Garden City Press.

HAROLD W. THOMPSON

Was born in Newfoundland and received his early education in the public and high schools of St. Johns.

His entry into the business of his lifework was made as an apprentice in the printshop of a local St. John's paper, owned and operated by his father.

At the end of the second year of his service, his father was appointed a judge, and the printing business was sold to the son who carried it on for three years; then sold it and came to Canada.

For a while he served as a reporter on a Toronto daily. But his heart and ability lie more along the business side of journalistic work and he soon began to drift in that direction.

It speedily became evident that in this sphere he had found his fitting métier. His geniality, his imperturbable temper and his capacity for making friends—for he is an exceptionally good "mixer"—all stood him in good stead in the work to which he now devoted himself. To good temper he joins good sense to a degree rare even among advertising men who are not, as a body, the least equable or the least sensible of mankind.

He had several years' experience as an advertising solicitor before joining the forces of the Garden City Press in the autumn of 1916.

Mr. Thompson is a **Director** and **Western Business Manager** of
The Industrial and Educational Publishing Co., Ltd.

LEON-MERCIER GOUIN

Born in Montreal on the 24th of December 1891, is the son of Sir Lomer Gouin and Eliza Mercier, daughter of Honoré Mercier, former Premier of Quebec.

He received his education in Montreal and pursued his classical studies partly at St. Mary's College and partly at Loyola College. He graduated from the latter with his B. A. in 1911 and was on this occasion awarded the Governor-General's Medal. He then went to England and spent two years studying in Oxford (New College). When he came back in 1912, he entered the Law Faculty of Montreal University, whence he graduated in 1915 with the degree of Master in Law "summa cum laude." In the same year, he was admitted to the Bar of the Province of Quebec.

Unfortunately, at this period of Mr. Gouin's career, his health, which had given him great concern for years, became so seriously impaired that he was forced to a complete rest; for two years, he had to refrain from all kind of work.

Building up a clientele, however, did not prevent Mr. Gouin from devoting most of his spare time to home study, in which he had learnt to believe since his early years. His efforts in this direction were so well applied that, in 1921, he was awarded a Queen's University Diploma and that, in the same year, he won the title of Doctor of Laws of the Université de Montréal.

Mr. Gouin now practises law in Montreal with the firm of Beaulieu, Gouin, Marin & Mercier. Besides, his untiring studies have qualified him for professorship in the Université de Montréal, where he teaches the following specialities: Labour Legislation (Faculty of Law); Commercial Law and Industrial Law (Ecole des Hautes Etudes); Social Legislation and Economic Doctrines (Ecole des Sciences Sociales). He has also found time in his spare hours to translate "The Life of Sir Wilfrid Laurier by O. D. Skelton," two volumnes containing about one thousand pages. At the Quebec bar he is considered one of the ablest of the younger lawyers. He is also considered a very able speaker in either French or English.

Mr. Gouin is a **Director** and **Solicitor** of **The Industrial and Educational Publishing Co., Ltd.**

ARTHUR ROBERT RANDALL JONES

Was born in Bristol, England, and received his education at Clifton and Oxford. He qualified as a member of the legal profession, but did not practise, taking up literary and journalistic work instead. At the outset of his journalistic career he traveled extensively, visiting practically every European country of importance as well as Australia and New Zealand, and contributing articles on various phases of social, industrial, and political life in those countries to many Old Country newspapers and periodicals. Coming to Canada many years ago he has been connected, either as editor, feature writer or contributor, with several important newspapers in this country. He was for long on the staff of the Toronto Star where he made a considerable reputation for himself as a political writer and commentator. In fact, the Montreal Star said of him, some years ago: "His writings under the pen-name of "Politicus" are well known throughout the Dominion." But political affairs have by no means monopolized his attention, either as a student or as a writer. Indeed, there are few aspects of life in Canada to which he has not devoted a good deal of thought and study. In this connection, he has been fortunate in the fact that the nature of his work has usually permitted of his undertaking research for himself instead of being "spoonfed" with facts by others. For several years he was Canadian Correspondent of the Birmingham Daily Post, one of the largest and most influential of Provincial daily newspapers in the Old Country.

Mr. Jones joined the staff at the Garden City Press in Sept. 1920.

He is a **Director** of
The Journal of Commerce Publishing Co., Ltd.

and **Editor** of
The Journal of Commerce.

G. GRASSIE ARCHIBALD

Was born on a farm within the town of Truro, N. S. He received his early education in the public Schools and Colchester Academy, Truro, N. S. He graduated from the Provincial Normal School, Truro, in 1896 and from the School of Agriculture, Truro, in 1897. During his last term at the School of Agriculture, he was engaged in teaching in the Truro Public Schools, working in the evenings and Saturdays on his Course in Agriculture. In the fall of 1898, he entered the second year at Dalhousie University, having worked off his first year by private study. Lack of money to continue his course compelled him to resume teaching. At the same time, he took up extramural work at Queen's University, Kingston, Ont., graduating with B. A. from that institution in 1903. He continued teaching until 1907, when he became Editor of The Colchester Sun, Truro, N. S. In December, 1912, he was appointed Federal Emigration Agent at Aberdeen, Scotland, which position he held until December, 1919, although from November 1st, 1914, until August 13th, 1919, he was on military service, having joined the First Canadian Contingent as a Captain in the Nova Scotian 17th Battalion. He served in France from April 6th, 1915, until June 11th, 1919. being twice mentioned in despatches and having received the decoration of an Officer of the Order of the British Empire returning with the rank of Lieutenant-Colonel on demobilization. Since December, 1919, he has been **Managing Editor of The Farmers' Guide.** While located at Aberdeen, he was a student of Economics, reading under the direction of the Correspondence Staff of University College, London.

WILLIAM MURRAY GOODWIN

Is a native of the old university town of Kingston, Ontario, where he received all his scholastic training. He graduated from Queen's University as Bachelor of Arts in Chemistry and Mineralogy in 1909, and as Bachelor of Science with honours in Mining in 1911. His practical training commenced at the old iron blast-furnace plant at Londonderry, Nova Scotia, but soon switched to sylvan scenery. After a short spell of underground mining he joined the Cobalt rush as a youthful prospector. Thereafter, until the war intervened, he spent most of his summers in the woods on geological surveys and prospecting, ranging through Ontario from the Quebec boundary to Rainy River District. Two years spent as engineer on the development of the Magpie Mine and its smelting plant, and a season with the Mond Nickel Company added variety to the life in the woods, and a session as assistant in the department of Mineralogy at Queen's brushed up the scholastic side.

On returning from the war in 1919, Mr. Goodwin took up a task left unfinished in 1914. He and some associates had located huge deposits of titaniferous iron ore and had found they contained an appreciable percentage of the rare metal vanadium. So they set to work to find a means of treating this ore so as to recover both iron and vanadium. The search was rewarded by the discovery of a very simple means to this end, which it is hoped will result in the establishment of an alloy steel industry indigenous to Canada. This work consumed three years, and shortly after Mr. Goodwin became Editor of the **Canadian Mining Journal.**

JOHN JESSE CLARK

Was born in Corning, New York, and received his early education in the public schools of that city. He was graduated as a mechanical engineer from Lehigh University with the class of 1888. He spent the next four years working in the drafting rooms and in the machine shops of various concerns. He worked in the machine shops of the Fall Brook Coal Co., Corning, N. Y., and the Latrobe Steel Works, Latrobe, Pa., was employed as draftsman, with Harrison Bros & Co., Philadelphia, Pa., and with Stearns Manufacturing Co., Erie, Pa.

From Nov. 1, 1892, to Nov. 1, 1915, Mr. Clark was employed as a textbook writer and editor by the International Correspondence Schools, having entire charge of their educational work from April 1, 1897. He wrote many of their textbooks, and had general supervision of the writing, editing, printing, and copyrighting of all their school publications, including their magazine "Home Study", afterwards "Science and Industry."

Mr. Clark is the author of several standard works on the Slide Rule, and was a frequent contributor to the technical press. For the last three years, he has been editing the textbooks on the Manufacture of Pulp and Paper, and is the author of Vols. I and II of that course. He has written much on the subjects of mathematics, mechanics, drawing, and on various other technical subjects, and was a charter member of the American Mathematical Association. He was for many years a member of the American Associtition for advancement of Science and of the Society for Promotion of Engineering Education. He took up his office at the Garden City Press on Sept. 1st, 1922, as **Vice-Principal** of the **Institute of Industrial and Domestic Arts,** with complete supervision of textbooks and **General Adviser of Courses of Study** put out by that Institute.

T. LINSEY CROSSLEY

Was born in London, England, and came to Canada with his family when six years old. He attended the Quebec High School and the McGill Model School, Montreal, winning a scholarship from the latter to the Montreal High School which he attended for three years.

His first job had to do with paper and publishers in the office of Gilmour & Kearns, Lithographers and engravers, Montreal. He had already come in contact with the pulp and paper industry, as his vacations were spent at Grand Mere, where his father was accountant to the Laurentide Co., Ltd., and where he had spent one summer in a survey on the St. Maurice River for power purposes. In 1897 he entered the employ of Dr. J. T. Donald, Consulting Chemist and Assayer, where the next four years were spent. His spare time during these four years was turned to excellent account. By self-study he took a course in chemistry and physics in the Medical Faculty of Bishop's College, obtaining first class honors, and followed this with a course in advanced organic chemistry at McGill University.

In 1901 he left the employ of Dr. Donald to become chemist and draftsman to the Riordon Pulp & Paper Co., at their Hawkesbury sulphite mill.

In 1909 he returned to Montreal and again joined the firm of J. T. Donald & Co., as Director of Laboratories. In 1912 he was appointed professor of Chemistry at the Montreal College of Pharmacy, which position he held until 1916, when he left Montreal to open a branch office and laboratory for J. T. Donald & Co., at Toronto.

Since the formation of the Technical Section of the Canadian Pulp & Paper Association in 1915 Mr. Crossley has been chairman of its committee on education, and when the joint committee on text books was formed in 1918 he became one of the Canadian representatives.

In January 1922, Mr. Crossley joined the staff of the **Garden City Press** to assist in the development of a system of education for men in the pulp and paper industry, subsequently becoming **Director of Instruction in The Institute of Industrial & Domestic Arts** which position he now holds.

PAUL-EMILE PICHE

Was born at St. Gabriel de Brandon, a son of the late Judge Piché, Que. While very young, his family moved to Montreal, where his education began under the Christian Brothers. His classical studies were made at St. Mary's College under the Jesuit Fathers, from which educational institution he received the degree of B. A. with the highest honors in 1910. The next five years were spent in Ecole Polytechnique, the Engineering Faculty of the then Laval University, now the University of Montreal, from which he received the degree of Civil and Mining **Engineer.**

After a few months' private practice he decided that industry offered a more interesting field and he joined the forces of the Northern Electric Co. He left this position to enlist with the Canadian Expeditionary Forces. At the close of the war he accepted a position with the Wayagamack Pulp and Paper Co. where he received a wide and profitable experience. While he was at Wayagamack he interested himself, during his spare time, in the translation of scientific and technical works, among them a book of some three hundred pages dealing with Einstein's Theories and edited by J. Malcolm Bird, associate editor of Scientific American.

As so often happens with the earnest student worker, Mr. Piché's home studies and translation gradually developed until they became his major occupation, so that, when the Institute of Industrial and Domestic Arts desired a capable translator of technical and educational works, Mr. Piché was one of the few able to qualify for the position.

He is **Director of French Translation and Correspondence Courses in French** at the Garden City Press.

MISS KATHERINE A. FISHER

Was born in the County of Perth, Ont., where she spent her early life on the farm and attended the local public school. Her high school education was received at Stratford Collegiate Institute after which she had a term at the Hamilton Normal College and at the Ontario Normal School, from which she graduated in Domestic Science and Arts.

The first summer of her professional career was spent as lecturer and demonstrator for the Ontario Women's Institutes.

For the next six years she was in charge of the Department of Household Science at the Collegiate & Technical Institute, Kitchener, Ont. From Kitchener she went to Macdonald College, Ste. Anne de Bellevue, where she had charge of the Department of Household Science. While in this position she orgaanized the first Home Makers' Club in the Province of Quebec.

During her six years at Macdonaold College her work attracted the attention of the older institutions from which she received several offers. She finally accepted a position on the staff of the Department of Household Arts, Teachers' College, Columbia University, New York.

Miss Fisher has always been a frequent contributor to the various home magazines and is the author of some of the literature published by the Bureau of Education, Washington. She is also the chairman of the Editorial Board of the Journal of Household Economics.

When The Institute of Industrial and Domestic Arts decided to organize courses of study for women, they were fortunate in securing the advice and assistance of Miss Fisher in their preparation. In fact, these courses owe their origin to the insistent plea that Miss Fisher has made for years that some institution in Canada should provide such extension courses. During the year and a half that Miss Fisher has had charge of this organization work her interest in it and her desire to be of service to the Canadian woman worker has been broadened and deepened, and at the end of her present term at Columbia University she will return to Canada and give her whole time and attention to this work at the Garden City Press.

JAMES H. CONLON

Editor of the Canadian Fisherman, first saw the light of day in St. John, N. B. where he received an elementary and High School training. On graduating from the High School he joined the staff of the St. John Daily Telegraph as cub reporter.

The genial subject of this sketch, although not yet eighteen, had sufficient foresight to realize that the quickest road to recognition was by mastering some one thing so thoroughly that others with less knowledge of that particular subject would begin to look upon him as an authority. In making his choice of a subject he was shrewd enough to choose one that lent itself to the production of copy—a subject with a romantic history, one that held great possibilities for the future and yet one which already engaged the attention of a sufficient number of readers and prospective readers of the St. John Telegraph to insure that a reasonable amount of space in that paper would be allowed for his manuscript.

He chose the commercial Fisheries of Canada and studied it from every angle.

In a short time his articles attracted the attention of the specialized press and he became the local correspondent of many of the leading fish journals of the world including the Canadian Fisherman, which at that time was edited by Captain Frederick William Wallace, a young author whose sea stories such as "Blue Water", and "The Shacklocker", were beginning to attract wide attention throughout the English speaking countries.

By the excellent work he was doing young Conlon also attracted the attention of The Fisheries Department at Ottawa, and in the autumn of 1919 he was made chief of the fish marketing and publicity work of the Dominion Government.

Towards the end of 1921 the demand for Captain Wallace's deep sea stories. (he had already completed "The Viking Blood" and was engaged in writing "Salt Seas and Sailormen") was beginning to draw him to the big city of New York, where his "Blue Water" was being prepared for the screen. He finally left for there in January, 1922, and Mr. Conlon returned to Journalism as **Editor of The Canadian Fisherman.**

G. E. JAQUET

Born at St. Imier, Canton of Berne, in the Jura Mountains, French part of Switzerland. Educated at the Armour Institute of Technology and the University of Illinois; graduated in Railway Electrical Engineering in 1908. Spent some time in transportation research, in the field of train resistance, locomotive tests, and steel-car construction.

Served as apprentice in the testing and assembly of heavy electrical apparatus at the Schednectady works of the General Electric Company; subsequently received training in the sale of heavy power apparatus at the district sales offices of the company's Power and Mining department. For two years, engaged as an assistant to the Superintendent of Power, New York Central and Hudson River Railroad, New York City, in connection with problems of operation during the period of electrification of the steam service over the present electric divisions terminating at Grand Central Station.

Two years manager and superintendent of public utilities in a city of 6,000; work largely rehabilitation of light, power and water property and development of new water supply. During the latter period of the war, with the Shawinigan Water & Power Company, Montreal, for approximately three years, largely in the capacity of Employment Manager for the various industries of the company and its subsidiary companies at Shawinigan Falls, producing munitions.

The succeeding three years spent with Arthur Young & Company, production engineers and accountants, as engineer dealing with problems of organization, compensation of employees and personnel relations for their clients in the municipal, federal and commercial field. In this capacity served the city of Montreal in establishing the Department of Municipal Service and the Council Sub-Committee on Reorganization in effecting certain reforms in the organization and procedure of federal departments. Member, Society of Industrial Engineers and Illuminating Engineering Society.

Mr. Jaquet is **Editor** of **"The Electrical Directory Of Canada"** and **Electrical Editor** for the **Garden City Press publications.**

WILLARD C. FRENCH

Received his preliminary education in the elementary and high schools of Massachusetts. From the Boston High School he entered the employ of the B. F. Sturtevant Co. where he was successively machinist, moulder and mechanical draftsman. His spare time and evenings here were spent in furthering his education at the classes of The Boston Y. M. C. T. and Massachusetts Institute of Technology.

His next position was as machine designer with the Stafford Company, Readville, Mass., a large manufacturer of automatic looms. While here he took a course with the International Correspondence Schools in cotton weaving.

Thus his work and studies at the Stafford shops carried him directly into the textile industry. He left Readville for Philadelphia where he took a three year course in the Philadelphia Textile School. His first responsible position in the textile industry was with the Galt Robe Co. of Galt, Ont. as fabric designer and assistant superintendent.

Having a thorough knowledge of the machinery as well as its operations in the manufacturing of fabrics, Mr. French interested himself in solving some of the problems that the National Fiber Textile Co. of Neenah, Wisconsin was wrestling with in an effort to spin paper into twine and weave it into carpet, rugs and bagging. Four years were spent here as Superintendent and inventor. From Neenah he came back to Toronto as part owner and manager of The Textile Processing Co. which business had mostly to do with wool scouring and silk throwing.

On account of the wide range of his knowledge and experience Mr. French was favorably considered for the position of principal of the textile school which the industry and others talked of establishing in Canada a few years ago, and the management at the Garden City Press had negotiations with him for a number of years before he accepted the position he now holds, viz. **Technical Editor** of the **Canadian Textile Journal.**

THE OFFICE EXECUTIVES

The work of the Garden City Press, both at Gardenvale and Toronto, naturally falls into five quite distinctive sections,—Educational, Editorial, Business, Mechanical and Clerical. Each of these connects up more or less closely with one or more of the others. But there is one point at which they all come together, viz. the General Office—and the person at the head of this department has a variety of detail and a range of responsibility that can be successfully handled only by one who has grown up with the business.

Miss Husband

At Toronto the company is fortunate in the services of such an official in the person of **Miss Isobel R. Husband,** who has been with the company since June, 1909. She came directly from the Business College, and has not only grown with the business but has had a fair share in the making of it.

Miss Knox

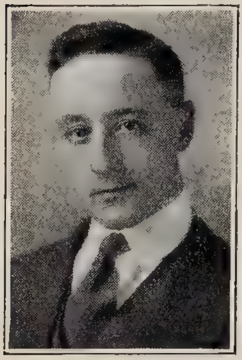
Miss Husband claims as her native town Oakville, Ont., where she received a public and high school education. After a term at the Normal School, Toronto, she taught school for three years and then decided to prepare for a business career. She is the **Office Manager** and **Assistant Secretary-Treasurer** at the Garden City Press, Toronto.

At Gardenvale the company is equally fortunate in the services of **Miss E. C. Knox,** who has been with that office since its early beginnings in Montreal.

Miss Knox was born in Belfast, Ireland, where she received a good education. She came to Canada in 1913 and entered the employ of the Industrial and Educational Publishing Co., within three weeks after landing. She is the **Office Manager** and **Assistant Secretary-Treasurer** at the Garden City Press, Gardenvale.

PERCY BELL

Is a native of Toronto, where all his schooling, which did not extend beyond the public schools of that city, was received. As a student young Bell seemed to be more interested in the manner and methods of making books than in mastering their contents so that he was not regarded as a particularly good student.



As soon as he could get a position in a print-shop he gave up his studies. But only for a short time, as he soon began to realize that if he wished to rise above the level of the average compositor, he had to look to books for a greater knowledge of the business than he could pick up from those under whom he was working. So he reverted to study; but this time with a definite purpose, and with an interest growing out of his work. Even in the abstract study of words, composition and literature he found a greater fascination than he had ever experienced at school.

His interest in his work at the shop drew him there early and often held him long after the others had left.

These characteristics in a workman never fail to attract the attention of the management, and, in a comparatively short time after completing his apprenticeship, he was placed in charge of a department.

In order to get into a larger field with greater possibilities, Mr. Bell left this position and joined the forces of the Garden City Press of Toronto in November, 1915, as compositor. Here he rose rapidly, first to the position of foreman of the composing room and then to the position of **General Superintendent** of the whole shop

GABRIEL VAN WTBERGHE (Vanut)

Was born at Iseghem (Belgium) in the heart of Flanders. He is descended from an old Flemish family of Keltic origin. His father, a physician and author, was a member of the Belgian Medical Commission, and his desire was that his son should follow in his profession. To that end Gabriel was given a classical course at Notre Dame College, Tournai. But on graduation his desire was for industry and not medecine, and he entered the Institute of "Arts and Métiers" from which institute he graduated in three years with the degree of "licencié."

He came to Canada in 1912, and in rapid succession rose from the position of compositor to foreman, superintendent and finally manager of an important publishing house in the Province of Quebec. Not being able to join the army of his native land when the war broke out, he voluntarily enlisted in the Canadian Expeditionary Forces, where he rose to the rank of Sergeant Major.

After being discharged from service, Mr. G. Van Wtberghe held, with the Montreal Branch of the Liquid Air Society, manufacturers of oxygen, nitrogen and dissolved acetylene, the position of demonstrator of autogenous welding. After a few weeks spent in that capacity, he was promoted to superintendent, and, in a little while, he was made chief of fabrication. Having put in about a year's good service in that position, he was appointed technical director of the same branch of the Liquid Air Society. Simultaneously with the holding of these various posts, he acted as teacher of evening classes at the Montreal Technical School.

A long and severe illness necessitated his severing his connections with the Liquid Air Society and the Montreal Technical Scool. After a period of rest and recuperation from his sickness, he returned to the printing trade which had always had a fascination for him. In addition to his duties at the Garden City Press, he contributes, as he has done for some years past, to various educational and technical publications.

He came to the Garden City Press as **Instructor of Apprentices,** but was soon promoted to the position of **General Superindent.**

CHAPTER V

LOCATION OF GARDEN CITY PRESS

If there be one spot which, more than another, is entitled to be regarded as the "Gateway" to Canada, it is where her two great waterways, the St. Lawrence and the Ottawa, meet. When her transportation facilities were limited to the canoe, the raft and the barge, her two great commercial highways came together at the confluence of these two rivers. At the present time when the railroads share with the waterways the transportation of goods and passengers, this spot has continued to hold its reputation as the "Gateway", since the three main railroads from the north, the centre and the south of middle-west and far-west Canada converge at this point on their way east.

DOLLARD BATTLING WITH THE IROQUOIS, 1660

It was this "Gateway" which Dollard and his dauntless band of Frenchmen and Indians came out from Montreal to defend against the approaching Iroquois in 1660. He encountered them a few miles beyond at the foot of the Longsault Rapids on the Rivière Grande (Ottawa River). From behind a crude and hastily constructed barricade of logs, stones and earth, and after five days' slaughter and intrepid fighting, he defeated the intention of the Indian warriors, but not before he had consecrated the spot with his own life and the lives of his comrades, save one, to whom history owes the details of this brave deed.

"If seventeen Frenchmen, four Algonquins and one Huron, behind a picket fence, could hold seven hundred warriors at bay so long, what might they expect from many such, fighting behind walls of stone."*

SAMUEL DE CHAMPLAIN,
DISCOVERER OF THE
GATEWAY, MAY, 1611

Later, when the commerce of the country was measured by the quintals of fish and the bales of furs produced, it was to this "Gateway" that the merchants from Montreal, Quebec, New York and Boston journeyed with their wares which they exchanged for furs on the opening of navigation each year. In these days the fur trading posts at Ste. Anne de Bellevue, Ile aux Tortes, Fort

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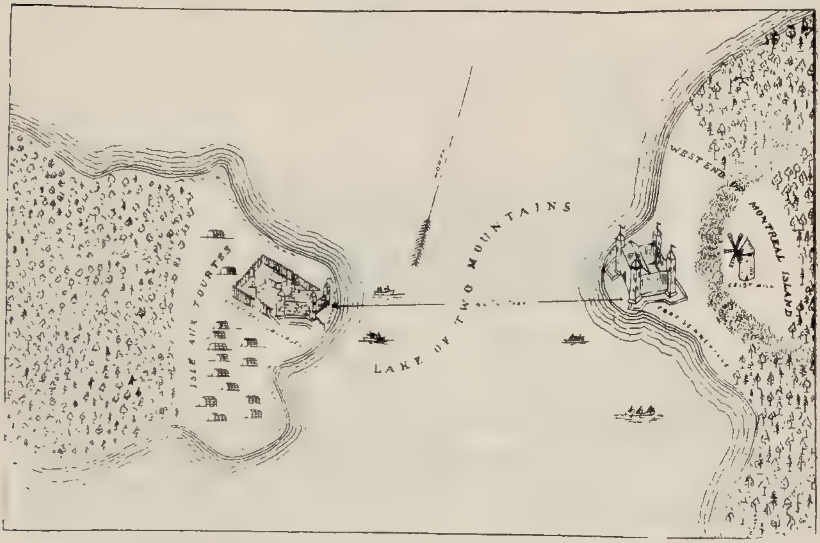
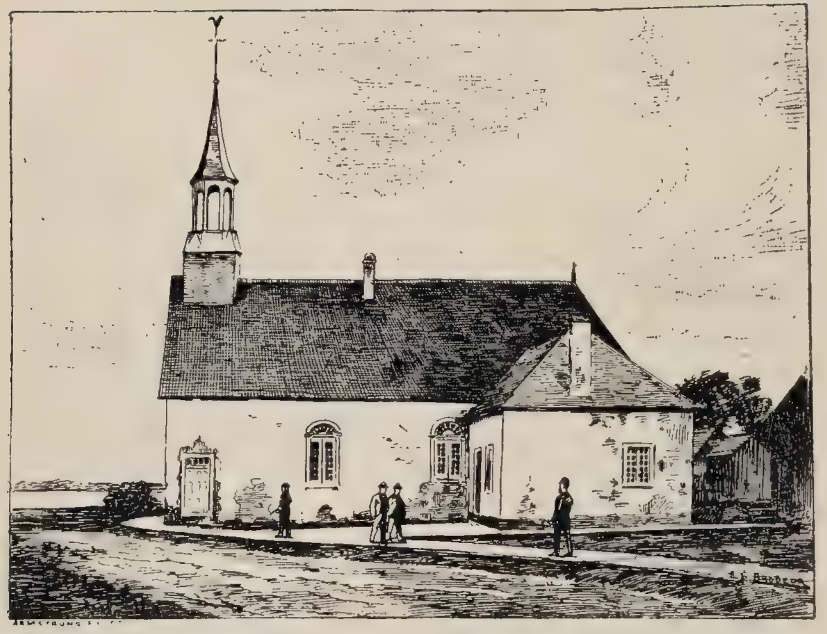
*Parkman — The Old Regime in Canada. p. 138

Senneville, Vaudreuil and Ile Perrot, were well known to every producer of and trader in furs.



BIRD'S-EYE VIEW OF FORTS AT ILE AUX TORTES AND SENNEVILLE, in 1720

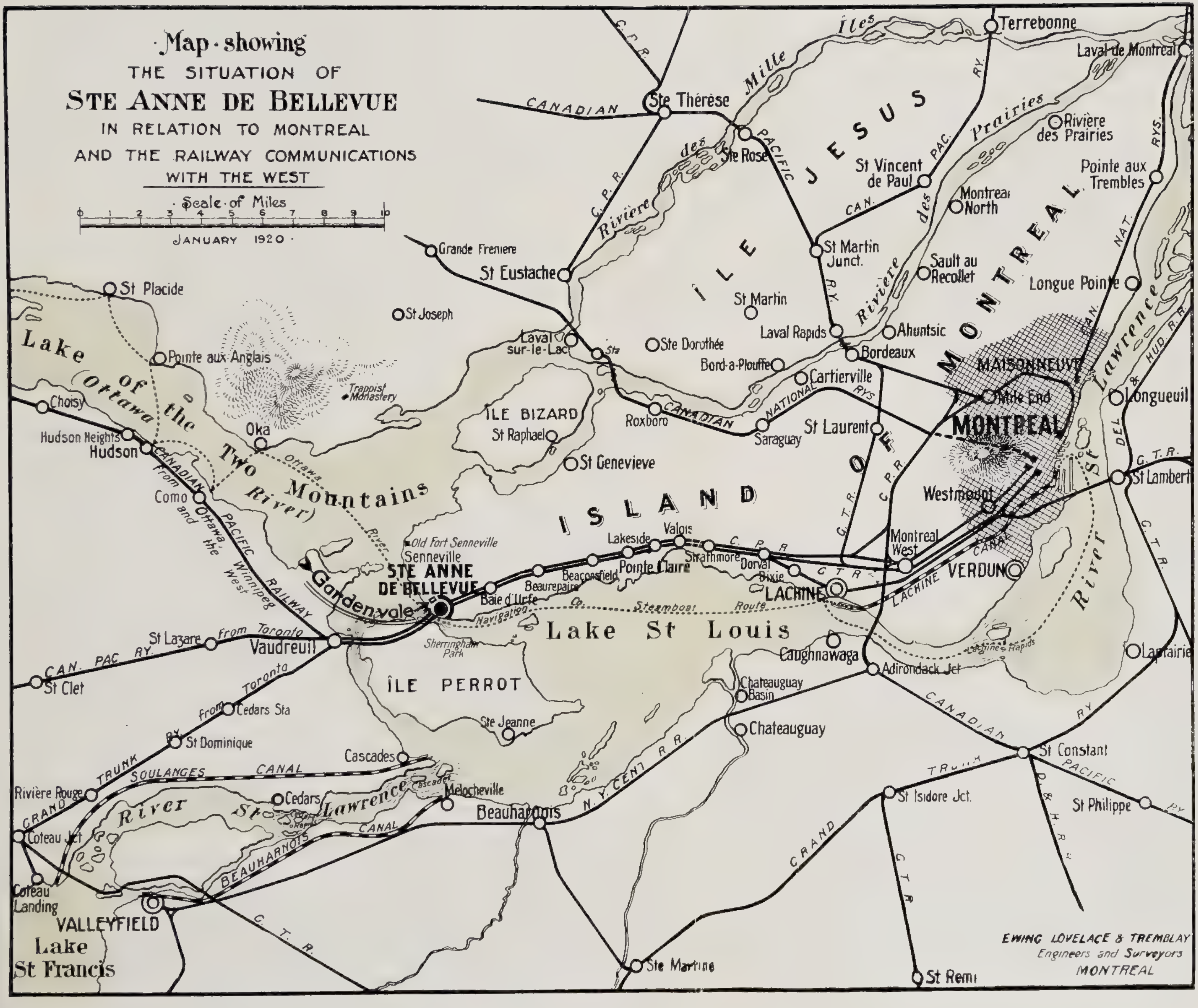
On Ile aux Tortes the Jesuits conducted a mission at a fort built by Vaudreuil in fulfilment of the conditions under which his fief had been granted him, where the Indians might spend a part of the summer before returning up river for their winter's harvest of furs; but the traffic in liquors (l'eau de vie) which the adjoining posts carried on with these early summer resorters, interfered with the spiritual work of the good fathers, and finally led them to remove their mission to the farther shore at Oka where the Trappist Frères now pursue their peaceful avocation of making the famous Oka cheese, teaching agricultural students and conducting a model experimental farm.



FIRST STONE CHURCH AT STE. ANNE'S, NOW INCORPORATED IN CONVENT

In the early days the western end of the Island of Montreal and the joining island were generally referred to as "Bout de l'Ile" (the end of the island).

Among the well known missions of these days that of St. Louis de Bout de l'Ile and Ile aux Tortes might well be included. In 1711 these two missions were under the care of Curé de Bresley. It is recorded that during the winter of that year the Curé was returning from a visit to a sick parishioner. It was a wild stormy night, and the drifting snow obscured the trail. While tramping about to locate the trail he got separated from his horse. In the blinding storm he wandered over a ledge and broke his leg. The reverend gentleman



Map showing
THE SITUATION OF
STE ANNE DE BELLEVUE
IN RELATION TO MONTREAL
AND THE RAILWAY COMMUNICATIONS
WITH THE WEST

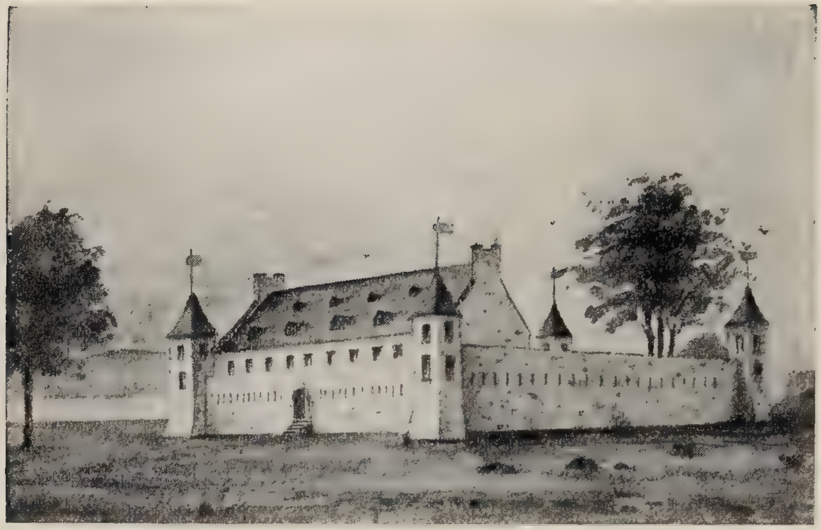
Scale of Miles

JANUARY 1920

EWING LOVELACE & TREMBLAY
Engineers and Surveyors
MONTREAL

DEPARTURE OF DE LA SALLE FOR THE WEST

no longer possessed the sustaining vigor of youth. As he lay on the snow gradually being overcome by the cold, pain and fatigue, visions of unfinished work actuated the invocation of spiritual aid. He prayed to Ste. Anne and vowed that if it were the will of God to grant her intercession and spare his life he would build a church in her name as a monument to the power of prayer. As the last flicker of consciousness died away, his undying faith took the form of a vision which assured him his prayer had been granted; but he knew no more until he found himself in a sick bed under the care of one of his flock. As soon as he recovered, he took steps to have the name of his mission changed from St. Louis to Ste. Anne, and during the next three years he built the first church at Bout de l'Ile.



FORT SENNEVILLE AS IT WAS IN 1770.

The image of the good saint which appeared to him in his plight he afterwards had carved in wood or probably did the work himself. This wooden image remained in the church for years until it was replaced by a more imposing one.

The origin of the latter part of the name "Ste. Anne de Bellevue" dates back to the seventies of the 17th century. The upper end of the Island of Montreal was opened up to colonization about 1670. The settlement owed its existence to the establishment about that time of a trading post on Isle Perrot. The success of this post soon attracted the attention of other fur traders. The first to follow was one Louis DeBerthé, who built a post on land granted him by the seminary during the following year (1672) under the name of

RUINS OF FORT SENNEVILLE AS SEEN AT PRESENT

"Fief Bellevue." It is not difficult to understand why this name was chosen. "Bellevue" or "beautiful view" are the words that fall spontaneously from the lips of anyone who has stood on the shore of this old fief, particularly at sunset when old Sol is settling down into the gap made by the Ottawa as it enters the Lake of Two Mountains. These sunsets are the most beautiful that may be seen anywhere.

The first church built at Ste. Anne de Bellevue and the one which replaced it, occupy another place in Canadian history, which all students of the early chronicles of Canada will recall with tender and reverent sentiments. This ancient place of simple but sincere worship stood but a few feet back from the shore that has witnessed the departure of more of the early exploration parties to the north-west and north than any other place in America. Between the church door and the beach stretched one of the earliest burying grounds in Canada. It was the custom for the members of these early exploration parties to attend at Mass before they embarked,

"Bringing their greeting to the good Ste. Anne and putting themselves under her protection. At the time this sanctuary was about the last on the route of travel."*

THE GRAVE OF SIMON FRASER
STE. ANNE DE BELLEVUE

The old burying ground above mentioned was subsequently removed up on the hill behind the Church to make way for Ste. Anne's ship canal. In the summer of 1919 the revered bones of the pioneers who first slept between the church and the shore, together with those interred in the district up to twenty years ago, were removed to the new burial ground just east of Macdonald College. About a mile from the church on the west side of the Sennevi le Road, a well-beaten path leads to a few mounds and tombstones surrounded by an old masonry enclosure fitted with a well rusted iron gate. This is the last resting place of the early settlers, including Simon Fraser, the discoverer of Fraser River, B. C., who was a factor of the North West company. As already mentioned one of the earliest fiefs granted by the French Crown was the fief Bellevue, in the county of Jacques Cartier, Bout de l'Ile. This came into the possession of Simon Fraser in 1821, and much of it has been held by direct descendants ever since. The land on which the **Garden City Press** is situated was purchased from Mrs. M. S. Blaiklock, a great-granddaughter of Simon Fraser.

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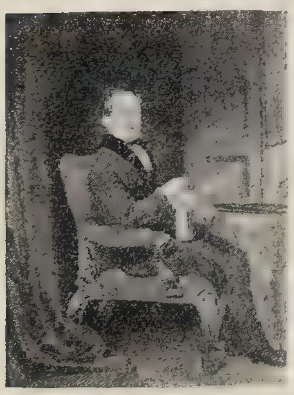
*Un Voyageur des pays d'en haut. pp. 23-33.

SIMON FRASER

Many of the old landmarks are fast following into dust those whose lives and deeds hallowed them, and by which they will be for ever recorded in history.



TOM MOORE

Among those deserving mention for the homage paid this beautiful and historic spot, the poet, Tom Moore, holds first place. In the month of August, 1804, he spent some days as the guest of Simon Fraser. As he sat in the twilight at the "Gateway" to a greater Empire, the rapids of Ste. Anne's and the angelus peals of her church bells wafted a song into his soul that will forever remain on the lips of Canadians:—

The Canadian Boat Song

Faintly as tolls the evening chime,
Our voices keep tune and our oars keep time.
Soon as the woods on shore look dim,
We'll sing at Ste. Anne's our parting hymn.
Row, brothers, row, the stream runs fast,
The rapids are near and the day-light's past!

Why should we yet our sail unfurl?
There is not a breath the blue wave to curl!
But when the wind blows off the shore,
Oh! sweetly we'll rest our weary oar.
Blow, breezes, blow, the stream runs fast,
The rapids are near, and the day-light's past!

Utawa's tide this trembling moon
Shall see us float over thy surges soon.
Saint of this green isle hear our prayers,
Oh! grant us cool heavens and favoring airs.
Blow, breezes, blow, the stream runs fast,
The rapids are near, and the day-light's past!

The man to whose intelligent appreciation of this district Canada owes the best detailed account of its historical incidents and early settlers, is the late Judge Girouard, author of "Lake St. Louis — Old and New."

The late Sir Edward Clouston, at considerable trouble and expense, resuscitated the old windmill at Senneville, and gathered into it many early Indian relics. He also took pains to preserve old Fort Senneville as it was left when burned by the Americans in 1776, and to him is due much credit for the preservation of the house in which Tom Moore wrote the Canadian Boat Song.

TOM MOORE HOUSE, STE ANNE DE BELLEVUE

As well as could be done, Dr. P. E. Brown has marked by fitting tablets the important spots on Ile aux Tortes.

In fact, if not in name, the district began to take on the appearance of a Garden City when a number of prominent men, such as the late Sir Edward Clouston, the late Mr. R. B. Angus, the late Senator Forget, Mr. F. L. Wanklyn, Mr. James Morgan, Mr. Jas. G. Lewis, Dr. J. L. Todd, Mr. J. Murray Gibbon, Judge Chas. Archer, Mr. G. M. Bosworth, Mr. W. S. Fallis, Mr. Jas. H. Maher, Mr. T. O. Lyall, Mr. A. G. Gardner, Mr. R. R. MacAulay, and others selected the head of the island as the seat of the country homes they built here. The transformation was greatly accelerated by the selection of the district as the site where Dr. James W. Robertson so intelligently assisted the late Sir William Macdonald to spend many of his millions in building that magnificient institution, Macdonald Agricultural College. This educational institution, which is destined to become more and more national in the scope and character of its work, will ever stand as a fitting monument to Dr. Robertson, who has done so much for the educational and industrial development of Canadian agriculture, as well as to Sir William Macdonald, whose munificence made it possible.

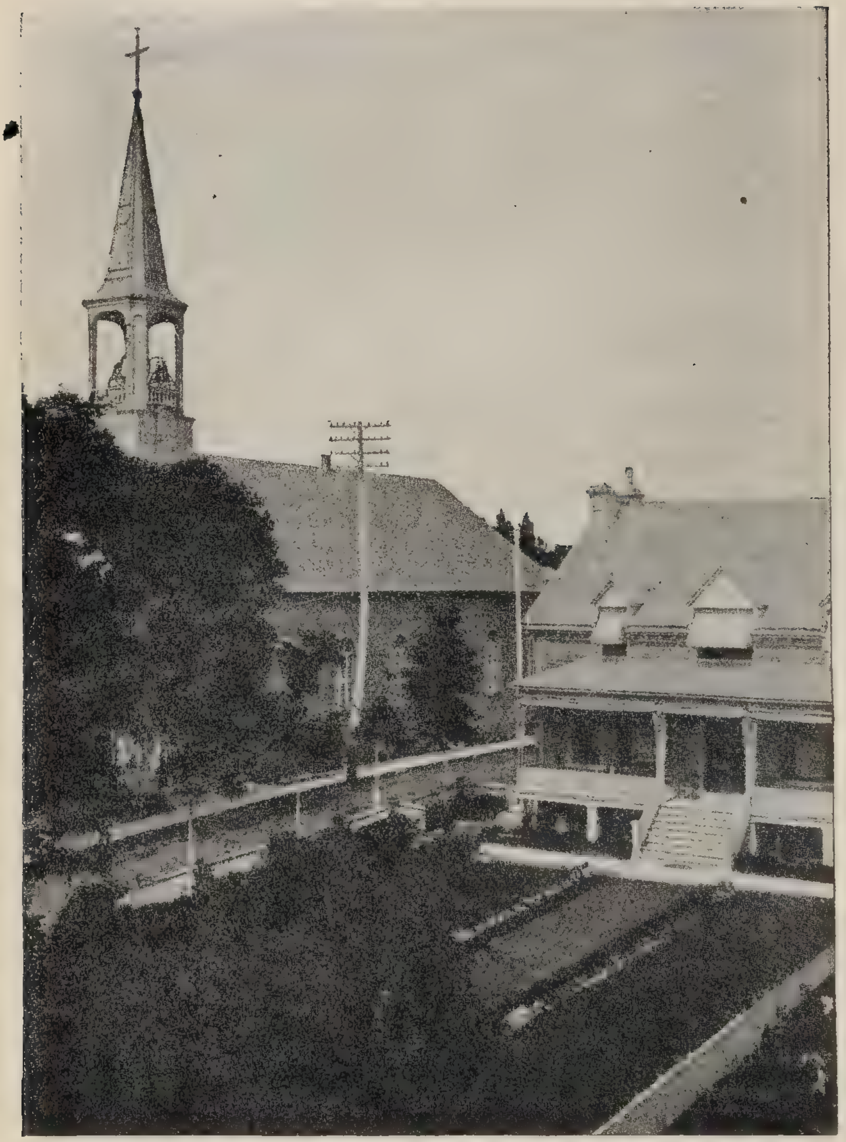
THE OLD WINDMILL
SENNEVILLE

In 1917, Ste. Anne de Bellevue was selected by the Dominion Government as the site for one of the military hospitals, where, by careful nursing and expert medical and surgical skill, the injuries suffered by many of our brave lads in Europe were to be repaired as far as possible. This hospital stands on the north side of the Canadian Pacific Railway and Grand Trunk Railway tracks and just east of the Canadian Pacific Railway station. On the north side of the tracks just west of the Canadian Pacific Railway station there is a small lake or pond and, close enough to this to be reflected in its still waters, the **Garden City Press** is situated. Both the Canadian Pacific Railway and Grand Trunk Railway lines are double tracked from Vaudreuil past Ste. Anne's to Montreal and the **Garden City Press** may be easily seen from the train on any of these four tracks.

GARDEN CITY PRESS
UNDER CONSTRUCTION,
1918

On the east-bound morning train, the porter generally arouses his slumbering passengers about forty-five minutes out of Montreal. As they begin to line up in the wash-room, the train, at top speed, because the road is good, dashes through the village of Vaudreuil on to a steel bridge which spans a shallow branch of the Ottawa River, that separates the mainland from Ile Perrot. Ile Perrot, at this point, is only two miles across, a distance covered by the train in less than the same number of minutes. Here there is another steel bridge which carries it from Ile Perrot to the Island of Montreal across the main branch of the Ottawa. This bridge stands directly above the Ste. Anne's Rapids mentioned in the "Canadian Boat Song," and over the canal by which all traffic up the Ottawa avoids the rapids.

Within a hundred yards of the east end of this bridge is the spot already mentioned from which so many voyagers started. The old graveyard stretched back from this towards the church. The first church stood on the site of the present convent — a square stone building easily seen from the train. The church that succeeded



ROMAN CATHOLIC CHURCH AND PRIEST'S HOUSE
STE. ANNE DE BELLEVUE

CANADIAN PACIFIC RAILWAY & GRAND TRUNK BRIDGES AND LOCKS AT STE. ANNE DE BELLEVUE

it and which still stands is easily recognized from the train by its steeple, in which the bells mentioned in "The Canadian Boat Song" still ring. Looking north from the train, Ile aux Tortes lies in full view about two miles away and directly east of it is the point of land on which are located the windmill and ruins of old Fort Senneville. The passenger who continues his watch on the north side of the train will notice in rapid succession, after passing the church the **Garden City Press,** the pond, the Canadian Pacific Railway station, the military hospital and farm buildings of Macdonald College.

On the south side, the Tom Moore house lies in the main part of the town of Ste. Anne's. The Grand Trunk Railway station is also on this side, and immediately

ENTRANCE TO STE. ANNE'S SHIP CANAL

OPENING UPPER GATE, STE. ANNE'S SHIP CANAL

NEW CLARENDON HOTEL, STE. ANNE DE BELLEVUE

east of the station are situated the main buildings of Macdonald College. Also on this side, but at some distance away from the railroad, is situated the Hudson's Bay House, which at one time was the headquarters of the North-West Company. Directly across from the main buildings of the Macdonald College, on Ile Perrot, is the site of an old trading post of much importance in the fur trading days.

The **Garden City Press** is the name of the building erected by the Industrial & Educational Publishing Co., Limited, in 1918 to house one of its printing plants and to be a home for a number of the technical, trade

REGATTA AT STE. ANNE DE BELLEVUE

and educational periodicals that are assisting in the work for which the Industrial & Educational Publishing Company, Limited, was organized. It is also the home of the **Institute of Industrial and Domestic Arts.**

The Significance of a Name

Ever since there has been any agitation for a movement of industry from overcrowded cities to country districts, the conception of a "Garden City" seems to have given the most satisfactory expression to the idea. Most of the early ventures along this line, both in England and the United States, did not retain the name, "Garden City." The home of Sir Titus Salt's works, outside of Bradford, is called Saltaire, that of Lord

VIEW OF THE GARDEN CITY PRESS TAKEN FROM C. P. R. STATION, SHOWING ENTRANCE TO GARDEN CITY AVENUE

SECTION OF TYPESETTING ROOM AT GARDEN CITY PRESS, GARDENVALE.

Leverhulme's works, situated a short distance from Liverpool, is known as Port Sunlight, after his "Sunlight" brand of soap; the home of Mr. George Cadbury's cocoa works near Birmingham is called Bourneville. The only model town in England that has taken the name "Garden City" is that built by Mr. E. Howard and his associates at Litchfield, about thirty-five miles from the city of London. Although this model town is less than twenty years old, it has already drawn from the over crowded industrial centres, many of England's well-known businesses, including the Temple Press of J. M. Dent and Sons.

In the United States there are also many fine and

ANOTHER SECTION OF TYPESETTING ROOM AT GARDEN CITY PRESS, GARDENVALE, SHOWING A BATTERY OF TEN LINOTYPE AND TWO MONOTYPE MACHINES AT END OF THE ROOM

A ROW OF NINE GARDEN CITY HOMES, GARDEN CITY PRESS AVENUE, GARDENVALE.

SECTION OF PRESS ROOM AT GARDEN CITY PRESS, GARDENVALE.

successful examples of model industrial towns or "Garden Cities," but, as in England, most of them are known by other names, the one notable exception being "Garden City" on Long Island, which is situated about forty miles outside of New York City, and is the home of the "Country Press" of Doubleday-Page and Company.

The many advantages which a rural district offers over a congested urban centre, particularly as regards opportunities for the creation of better living and better working conditions, was one of the considerations that

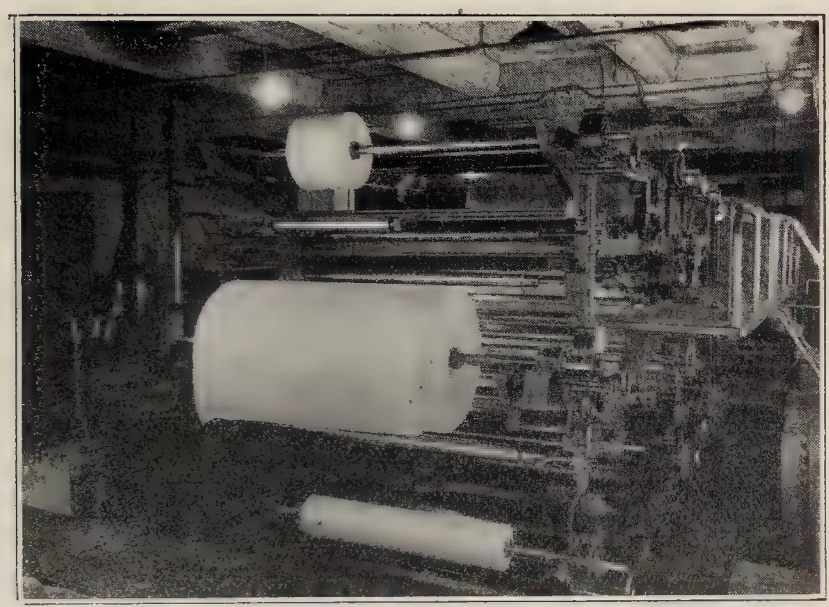
SECTION OF TYPESETTING ROOM, GARDEN CITY PRESS, TORONTO, SHOWING NINE LINOTYPE AND TWO MONOTYPE MACHINES AT END OF THE ROOM

actuated the selection of Ste. Anne de Bellevue as the site of the home and headquarters of the Industrial and Educational Publishing Co. and in the selection of a name for the new building, none could give a more satisfactory expression of the purpose than the one chosen.

But the name "Garden City" is not inappropriate to the district in which the **Garden City Press** is located, since it offers all the advantages a model town might be expected to present. The district is made up of the four small but well-governed and progressive communities of Ste. Anne de Bellevue, Senneville, Baie d'Urfe and Macdonald College. The first is a town of about two thousand inhabitants. The second and

SECTION OF TYPESETTING ROOM, GARDEN CITY PRESS, TORONTO.

third are small municipalities in which are situated the country homes and model farms of many prominent and wealthy citizens; and the fourth, is the large Experimental Farm, Agricultural College, School of Domestic Science, and Teachers' Training School, known as Macdonald College. The grounds of Macdonald College and farm cover an area of about eleven hundred acres. They are well laid out with roads and pathways and offer all the advantages of a park with the additional interest of a well-cultivated and well-stocked model and experimental farm. Much of the municipality of Senneville, particularly that part of it in the immediate vicinity of Ste. Anne's, is covered with forest through which the public may roam at will; also, much



SECTION OF PRESS ROOM, GARDEN CITY PRESS, TORONTO, SHOWING LARGE AUTOMATIC MAGAZINE PRESS

This press takes the paper in rolls, prints in one or two colors from either stereotype or electrotype plates on the same cylinder, folds gathers, covers, wire stitches, trims, and delivers magazines and journals ready for the mail, at the rate of from six to twelve thousand an hour.

of Ile Perrot, which lies directly opposite Ste. Anne's and forks the Ottawa River as it flows into the St. Lawrence, is covered with virgin forest.

Another interesting spot for the holiday seeker is Ile aux Tortes, which lies in the Lake of Two Mountains about two miles north-west of Ste. Anne's; and a short distance beyond this island, on the opposite shore of the lake, is situated Oka, the home of the famous Oka cheese, manufactured by the religious community of Trappist Frères. A few miles farther up the Ottawa river lies the town of St. Andrews. The first mill in

A ROW OF FOURTEEN GARDEN CITY HOMES, GARDEN CITY AVENUE, GARDENVALE

CHEMISTRY AND PHYSICS BUILDING — MACDONALD COLLEGE

BIOLOGY AND BACTERIOLOGY BUILDING
MACDONALD COLLEGE

MACDONALD COLLEGE CALVES AT PASTURE

AGRICULTURAL AND HORTICULTURAL BUILDING
MACDONALD COLLEGE

Canada for the manufacture of paper was built here in 1803. A few miles still farther up the Ottawa river is the scene of Dollard's battle with the Iroquois.

All these places, in addition to the beauty of their topography and flora, are rich in historic lore.

With Lake St. Louis, which is an expansion of the St. Lawrence River, on one side, and the Lake of the Two Mountains, an expansion of the Ottawa River, on the other, and the swift current forming the Ste. Anne's Rapids, as the water drops from the Lake of the Two Mountains to that of the St. Louis, the district is pro-

AT SEEDING TIME ON MACDONALD COLLEGE FARM

RESIDENCE OF DR. J. L. TODD, SENNEVILLE

MAIN BUILDING — MACDONALD COLLEGE

ENTRANCE TO RESIDENCE OF MR. JAMES MORGAN
SENNEVILLE

WOMEN'S RESIDENCE — MACDONALD COLLEGE

A HAY CROP ON MACDONALD COLLEGE FARM

MACDONALD COLLEGE FARM BUILDINGS

vided with the finest boating and yachting opportunities that one could wish for.

The district possesses three golf courses—the eighteen hole course of the Senneville Country Club, a nine hole course on the campus of Macdonald College and a nine hole course on the private grounds of Mr. Jas.

POULTRY BUILDING — MACDONALD COLLEGE

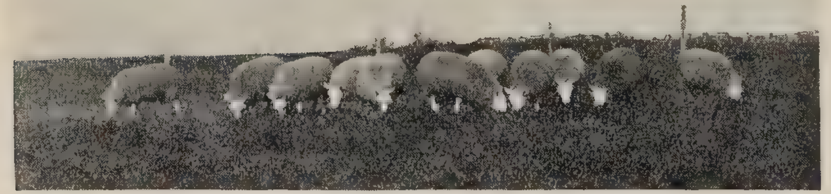
PUBLIC SCHOOL

Morgan. There is also a curling club, base-ball, lacrosse, football and cricket grounds, several tennis courts, skating rinks and toboggan slides.

Several active local organizations exist for educational, social and recreation purposes, among which the following deserve special mention: A men's club, known as "The Tom Moore Club," a women's club, a horticultural society, the Macdonald College Society, discussion clubs and several athletic clubs.

The Protestant ratepayers of the four above-mentioned communities join in the support of one central school. This school is situated on the campus at Mac-

WORKMEN'S COTTAGES — MACDONALD COLLEGE



ONE OF MACDONALD COLLEGE DEMONSTRATION FLOCKS OF SHEEP

AN OAT CROP ON MACDONALD COLLEGE FARM

donald College. In structure, situation, curriculum, and character of instruction, it is a model consolidated school in name and in fact. It possesses a well-equipped school garden for interesting and instructing the chil-

MACDONALD COLLEGE COWS AT PASTURE

A HAUNT FOR THE ANGLER AT STE. ANNE'S

dren in the growing of flowers and vegetables. The spacious campus provides excellent playgrounds, and a large gymnasium gives facilities for calisthenics and recreation during rough weather. The children living at a distance are conveyed to and from school in school

RESIDENCE OF MR. F. L. WANKLYN, SENNEVILLE

BARNS AND STABLES OF TRAPPIST FRERES, AT OKA

vans. The courses taught range from kindergarten work through eleven grades, including continuation classes that prepare the pupil for matriculation. Ste. Anne's also possesses a good Catholic school for boys and a Convent for girls.

There are three churches in the town, Catholic, Anglican and a Union Church. The later was the first successful effort in Canada to bring to one place of worship, Presbyterians, Methodists, Baptists and Congregationalists.

The water supply of Ste. Anne's is drawn from the Lake of Two Mountains by a central pumping station, equipped with a modern filtration plant and a standpipe that provides pure water at a pressure highly satisfactory for domestic and fire protection purposes. The town has also an excellent sewage system which leads to a septic tank and not to the river as is too often the case in places of even much larger population. Macdonald College has its own water and sewage sys-

AGRICULTURAL COLLEGE AT OKA

tem, filtration plant and water tower. The two municipalities of Baie d'Urfe and Senneville are supplied with a very fine quality of wholesome, palatable and pure water from the Vaudreuil Springs. This is piped by gravity for about fourteen miles across country and under the Lake of the Two Mountains, from natural springs situated at an elevation of one hundred and fifty feet above the district of Ste. Anne's.

BIRD'S EYE VIEW OF THE VILLAGE OF OKA

MEN'S BUILDING—MACDONALD COLLEGE

Light and power are supplied to the community from a central power station in the town of Ste. Anne's. It draws its supply from one of two transmission power lines that pass through on their way to Montreal from

MONASTERY OF TRAPPIST FRERES, OKA

✓

TOWN HALL AND POST OFFICE
STE. ANNE DE BELLEVUE

SENNEVILLE ROAD — STE. ANNE DE BELLEVUE END

RESIDENCE OF MR. F. C. MORGAN, SENNEVILLE

the hydro-electric development stations at Cedar Rapids and Soulanges on the St. Lawrence River.

Although the people of the district may purchase their groceries, dry goods and other supplies in several of the large department stores of Montreal and have them delivered to their doors for the same price they would pay if they lived in the metropolitan city, or may have their orders filled within a few hours by the mail order houses of Toronto, yet the merchants of Ste. Anne's do a flourishing business. They keep a large stock of all kinds of commodities and provide a delivery service equal to the best.

No place in Canada, and few anywhere, can boast of finer transportation facilities than the people of this district. The main line of the Grand Trunk Railway from Toronto, Chicago and all points in western Ontario and in the central and western States, passes through Ste. Anne's to Montreal and points east. Like-

WOMEN TEACHERS' RESIDENCE—MACDONALD COLLEGE

wise, the line of the Canadian Pacific Railway from Toronto and points further west, which comes down through the centre of eastern Ontario, passing through Peterboro, Perth, Smith's Falls and intervening places, passes through Ste. Anne's on its way to Montreal and east. In the same manner the main transcontinental line of the Canadian Pacific Railway from Vancouver, Calgary, Regina, Winnipeg, Fort William, North Bay, Renfrew and Ottawa, passes through Ste. Anne's. These three trunk lines, which bear over ninety per cent. of the east and west Canadian traffic, and are the direct routes between the principal Canadian centres, converge at Vaudreuil, three miles west of Ste. Anne's and pro-

RESIDENCE OF THE LATE MR. R. B. ANGUS, SENNEVILLE

In THE GARDEN OF THE LATE MR. R. B. ANGUS, SENNEVILLE

STEAMER LEAVING ST. ANNE DE BELLEVUE

ceed side by side through Ste. Anne's to Dorval, which is eleven miles farther east, where the Grand Trunk Railway bears off to the right in the direction of Bonaventure Station, its Montreal terminus, while the Canadian Pacific Railway continues past Dorval in a straight line to the Windsor Station, the Montreal terminus of this line. The mileage traffic between Vaudreuil and Dorval is much greater than that of any other line of a similar length in Canada. Practically all through passenger trains stop at Ste. Anne's, which is their last stop into and their first stop out of Montreal. Frequently the Canadian Pacific Railway and Grand Trunk Railway trains will leave their respective stations at Ste. Anne's simultaneously, and the fine piece of level parallel track from there to Dorval offers temptations for

RESIDENCE OF MR. R. R. MacAULAY, SENNEVILLE

a race difficult to forego, much to the amusement of the passengers. These through trains, which cover the distance between Ste. Anne's and Montreal in half an hour, together with the many local trains that take from forty-five minutes to one hour to cover the same distance, provide the people of the district with an excellent train service.

Situated as it is, at the confluence of the Ottawa and the St. Lawrence, the district has also a boat service of much value, particularly as regards freight. All freight and passenger boats up the Ottawa River stop at Ste. Anne's.

Transportation for freight and mail is a matter of the greatest importance to the work at the **Garden City Press**. The paper comes by freight in carload lots and

RESIDENCE OF MR. JAMES MORGAN, SENNEVILLE

by boat, and the product, largely in the form of magazines and journals, is despatched through the mails. These publications and the correspondence instruction, together with the ordinary business letters, aggregate a quantity of mail matter too large to be handled economically by the local post office, and a special post office under the name of "Gardenvale, Que." has been established by the Post Office Department at the **Garden City Press.** All mail matter is sorted, bagged and put directly on the trains with a minimum of handling, thus providing a mail service of exceptional despatch and accuracy. Eight mails are received and eight despatched each day.

The **Garden City Press** has been especially designed to meet the needs of the business carried on within it,

RESIDENCE OF MR. JAS. G. LEWIS, SENNEVILLE

and to give the editors, educationalists, typesetters, pressmen, bookbinders, clerks and other occupants, healthy, cheerful and comfortable working conditions. It is well lighted, has high ceilings and a perpetually running fountain of spring water on each floor. The building has two wings, with the main entrance at the junction. The right wing is seventy-five feet long by forty wide. The ground floor of this wing is used for a storeroom and the main floor for the business offices and board room.

The left wing is one hundred and fifty feet long by fifty-two feet wide. The press-room, magazine bindery

RESIDENCE OF PRINCIPAL AND STAFF, MACDONALD COLLEGE

and mailing room occupy the ground floor of this wing. The main floor is given over to the typesetting and proof reading departments.

The whole of the top floor of both wings is taken up by the offices of the editors, text book writers, translators and the instructors and examiners of the correspondence courses of study.

Garden City Development Co.

The Garden City Development Co., Ltd. has been organized to provide homes and to assist those connected with the **Garden City Press** to build and own their own homes on the co-partnership plan. It is also inter-

A FLOCK OF GEESE AT MACDONALD COLLEGE

ested in and assists the proper layout and development of the community, by the construction of streets, sidewalks, boulevards, parks, play grounds, school grounds, sewers, waterworks, underground lighting, etc. Up to date it it has built twenty-one homes for rent, one on the co-partnership plan, and has two under construction.

These houses are built either of bricks or stucco and none have less than six rooms, — a reception room, dining room, kitchen, three or more bed rooms, and a bath room. Each has a full-sized, high, cement basement supplied with laundry tubs, coal bin and furnace (some hot-water and some hot-air). In the kitchen there is a hot-water tank connected with the kitchen range. Off

THE ANGLER MAKING HISTORY AT STE. ANNE'S WHERE SOME OF THE FINEST MUSKELLUNGE IN CANADA HAS BEEN CAUGHT

most of the kitchens there is a pantry. Both first and second floors are either of hard wood or edge-gained, B. C. pine. Each home is supplied with a porch, a lawn and a kitchen garden. Tenants wishing additional ground for planting may have a plot in size up to one acre on the adjoining farm, which has been rented to supply this accommodation, and also to provide a baseball and football ground, tennis courts and other facilities for recreation. A number of the tenants have produced from these plots more than their own requirements of vegetables, not only with little expense but also with benefit, pleasure and improved health.

IN THE GARDEN OF JAMES MORGAN, SENNEVILLE.

JAPANESE IRIS IN THE GARDEN OF JAMES MORGAN, SENNEVILLE

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